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A

SYSTEM

OF

RATIONAL and PRACTICAL

CHIRURGERY.

WHEREIN

All the General Intentions, whether Natural or Artificial, are accounted for and explained; according to the Principles of the Corpuscular Philosophy, and the evident Qualities of Medicines. Together with the Causes, Diagnosticks, Prognosticks, and Method of Cure, of *Tumours*, *Ulcers*, *Wounds*, *Fractures* and *Dislocations*.

To which is added,

An *INDEX* of Medicines, and their evident Qualities.

By *RICHARD BOULTON*, late of *Brazen-Nose* College in *Oxford*.

LONDON,

Printed for *W. Taylor* at the *Ship* in *Pater-Noster-Row*, and *W. Innys* at the *Prince*'s *Arms* in St. *Paul*'s Church-Yard, 1713.

THE PREFACE TO THE READER.

THE great Advantage that all Arts and Sciences have received from Philoſophy, is ſo well known to thoſe, whoſe Curioſity hath encouraged them to enquire into it, that it would be needleſs for me to uſe any Arguments to recommend it. How much the Art of Phyſick hath been improved by it is evident, from the Writings of

a great many learned Men, who have been induſtrious in applying emperimental Philoſophy to demonſtrate the Reaſon of their Practice, by which they have diſtinguiſhed themſelves from thoſe emperical Practitioners who know nothing but what they have ſeen, and received all their Knowledge in at their Eyes, without giving themſelves the Trouble to enquire into the Reaſon of what they do. So that if any Caſe happens to vary from what hath been taught them by Experience, either by the Difference of the Cauſe, Symptoms, or Variety of Conſtitutions, they are altogether at a Loſs, and ignorant what Method to purſue. Whereas when the Structure of Human Bodies is underſtood, and the Nature of thoſe Humours contained in the diſtinct Veſſels, and what Alterations they are ſubject to, and likewiſe how they affect one another; and alſo why Medicines produce the Effects they

they have upon them, whoſe Qualities they have taken Care to underſtand, it is no Difficulty to vary and alter their Practice according to the different Circumſtances of any Caſe that may happen; nor can any Diſtemper be new, or difficult, to thoſe who have taken Pains previouſly to conſider the Mechanical Reaſons of what may happen in Human Bodies.

And as Reaſon and Philoſophy are ſerviceable in Phyſick, ſo will they be equally uſeful, even in Chirurgery; for though Chirurgery in a great Meaſure conſiſts in Manual Operation, and it is requiſite a Surgeon ſhould have ſeen ſeveral Operations, before he ought to undertake them; yet when he hath ſeen thoſe Caſes, to underſtand the Reaſon of what hath been done, will enable him the better to undertake the Buſineſs himſelf, and not only to perform, but improve his own,

as well as the Practice he hath seen. As in Fractures in *Cranio*, when the Skull is depressed, and occasions violent Symptoms, and it is absolutely requisite the depressed Part should be raised speedily; should I make Incision, and having dressed the divided Lips of the Scalp, with proper Medicines to stop the Flux of Blood; should I be obliged to bind it up, and wait some Hours, lest the Blood should flow in upon the *Dura Mater*, when the Skull was perforated, to raise the depressed Part; and give way to the Influx of Humours, instead of making a Discharge; the Patient in that time might be dead; but since I know that in other Cases actual Cautery will immediately stop the Flux of Blood, and that the Life of the Person is in immediate Danger; though it be common Practice to wait some time before the Trepan is made use of, yet my Reason will tell me that I may stop the Blood

at

at once by actual Cautery, and immediately proceed to Perforation, and raiſe the depreſſed Part, without running the Hazard of thoſe ill Conſequences which might happen by Delay. I do not urge this as Practice, but as an Inſtance how Reaſon may direct me to what is not common Practice.

But Reaſon and Philoſophy are not only uſeful to improve Manual Operation, but altogether neceſſary, where Medicines and External Applications are required; for ſince the Humours which circulate thro' the Veſſels, as well as the Veſſels themſelves, are concerned, it is not only neceſſary to conſider the Structure of the Body, but likewiſe the Nature of the Humours in a natural State, and what Alterations they undergo, when they occaſion either Tumours or Ulcers, or how they may affect Wounds as they differ in Quantity or Quality;

as

as likewiſe we are to conſider the Nature of Medicines, and the Reaſon of their Effects.

Since then the Theory may be ſerviceable in improving the Practice of Chirurgery, I hope the following Sheets will meet with that candid Reception which the World hath hitherto favoured me with. And I am the more apt to flatter my ſelf with that Succeſs, ſince I pretend not to inſtruct thoſe who have no Occaſion for it, but thoſe who have.

I am not ſo vain as to think that I my ſelf alone am able to undertake a Work of this kind, being ſatisfyed that there are a great many ingenious Surgeons, who might have done it much better than my ſelf; but ſince none of them have thought fit, as yet, to give themſelves the Trouble, I hope they will not be offended if I have undertaken it.

Nor

Nor am I so conceited as to think my self so infallible, but that I may be guilty of some Mistakes, which I hope the ingenious and candid Reader will rather correct than blame. And if his Thoughts are better than mine, he will not be angry because he knows better than my self.

However, I have endeavoured to explain and give a rational Account, in the following Sheets, of all the Phænomena in Surgery, whether natural or artificial, according to the Principles of the Corpuscular Philosophy, and the evident Qualities of Medicines; and to make it more intelligible, I have by way of Introduction laid down a short System of that Philosophy; and to make this Book more useful, I have likewise added the most approved and orthodox Method of Practice, and shewn why the Medicines made use of produce their Effects.

And

And that this Book might be the more perfect, and less liable to the Objections of those severe Criticks, who are apt to approve of nothing but their own Performances; tho' better skill'd in finding Fault, than writing any thing of their own, I have in the following Sheets consulted that approved and ingenious Author Mr. *Wiseman*; so that instead of quoting him upon all Occasions, I may say in general, that there is nothing in his Book which is not contained in this. So that this Book may not only be called *A System of Rational Surgery*, but likewise an *Abstract of his Practice*, besides the Additions I have made of my own. And I have the rather made use of his Prescriptions than substitute new ones of my own, since they have been approved and confirmed for so many Years with general Applause; containing the whole *Materia Medica* useful in such Cases. So

that

that if any of them seem too long, the Reader having the Reason of their Operation and Effects along with them, he may be able to chuse or substitute Forms of his own, as the Circumstances of the Case requires.

To conclude, if what I have done may be serviceable to young Surgeons, and acceptable to the Candid part of the World, I have my Design.

THE

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A SY-

A SYSTEM OF RATIONAL CHIRURGERY, &c.

The INTRODUCTION.

CHAP. I.

Of Chirurgery in General, and the Method of explaining the Causes of Diseases, and the Intentions of Cure, as well as the Effects of Medicines.

THE Art of Chirurgery strictly, according to the Etymology of the word χειρουργία, only signifies manual Operation; where, by the Use of Instruments, or the Assistance of the Hands, human Bodies are relieved of those accidental Dis- *Of Chirurgery in General.*

eaſes they are externally ſubject to. And if ſo, it would be ſufficient for a Chirurgeon to conſider the natural Structure and Situation of the Parts of a human Body; and what Inſtruments, or other manual Aſſiſtance might be proper for their Relief, when diſabled by any Accident. But ſince Chirurgery is divided into four Parts, *viz. Syntheſis*, *Diæreſis*, *Exæreſis*, and *Anapleroſis*; and ſince the laſt Part of this Diviſion is chiefly effected, by the evident Qualities of Medicines applied; as they aſſiſt Nature in doing her Part; and none of the others can be perfected without them; to make the Art of Chirurgery perfect, it will be likewiſe requiſite for a Chirurgeon to conſider, not only the Structure and Fabrick of human Bodies, but alſo the Nature of the Humours contained in each diſtinct Veſſel, which may be affected with *Intemperies*, and occaſion the Diſeaſes under his Care: For if the nature of thoſe Humours be not well underſtood, and the Alterations they are liable to, it will be a difficult matter for a Chirurgeon to apply ſuch Medicines as are proper to anſwer his Intentions. And as it is neceſſary to underſtand the Structure of the Parts, and the Nature of the Humours contained in thoſe Parts; ſo it is alſo requiſite to conſider the Nature and Qualities of thoſe Medicines applyed, and how they affect the Parts or Humours they are to work upon; by which means he will be better able to proportion, and chuſe proper and effectual Topicks, to relieve his Patients of their reſpective Maladies.

What is to be conſidered by a Chirurgeon.

And when the Structure of the Parts are duly conſidered, and the Nature of the Humours external Applications are to work upon; and likewiſe the Nature and Qualities of Medicines, it will be no difficult Matter thence to deduce their *modus operandi*, and to explain how, what Medicines we make uſe of, produce their evident Effects. And when once we can but apprehend, why Medicines pro-

The Uſefulneſs of Theory.

produce their natural Effects; it will evidently appear, how much the *Rationale* improves Practice, in teaching us to diversify Applications, as the Circumstances of the Case shall indicate.

The Method proposed in the following Rationale.

And since all singular Cases are comprehended under their respective *Species*, and those different *Species* are considered under their proper *Genus*'s; the Method I propose in the following Sheets, shall be first to consider the several *Genus*'s, and from thence proceed to each particular *Species*.

But since all *Genus*'s and *Species* are comprized under the general Term of Chirurgery, of which we propose a *Rationale*; before we proceed to Particulars, it will be reasonable to consider and propose a general Scheme or System, by which we conceive all the *Phænomena* in Chirurgery may be accounted for.

And since the Qualities of the Parts, and Humours of a Man's Body, are evident Qualities; and also, since the Qualities of those Medicines we make use of, are equally manifest; we shall first deduce and account for the several *Phænomena*, by evident Qualities; and then shew how those evident Qualities produce their Effects, by their respective Particles working upon one another, according to the Principles of the corpuscular Philosophy.

Evident Qualities, what.

By evident Qualities I mean, those Properties which are the Result of each particular Body's distinct Form, or Contexture of Parts; for as the different Contexture of Parts of a Body happen to vary, so do their Forms, since Forms are nothing else, but a particular Modification, or Contexture of the Parts of Matter, of which the Body or Substance is composed; and as every distinct Substance hath its proper Contexture of Parts, that makes its Form; so according to that distinct Form, it hath distinct Qualities. Hence a Body is said to be astringent, and another whose Form and Con-

texture is of another kind, is Mucilaginous or Discutient, *&c.*

But to make this more intelligible to those who are but little acquainted with the Nature of Forms and Qualities; it may be requisite more distinctly to explain, whence Forms and Qualities arise; by which it will not only appear more plainly, what I mean by evident Qualities; but it will be a great deal easier to apprehend, how these Qualities affect one another, in the several Intentions in Chirurgery; and Philosophically to deduce the Reasons of the Effects of those Medicines, which are made use of in Chirurgery. In order to this then we shall first consider,

The Nature of Forms and Qualities more fully considered.

That as all Bodies are formed of common Matter, they would without Distinction appear to be of the same kind, were there not something to diversify them; and as Matter, considered as Matter, would be, as black to black, without differing in colour; there must be some Accidents to diversify the several Parts of it.

And since every Body consists of Parts, it is but reasonable to suppose, that in different Bodies, those Parts must vary, either in Size, Figure, or Position and Order; for were they of the same Size, Figure and Position, there would be no Difference in Texture, and consequently to our Senses they would appear to be the same: But since Parts of a different Size, Figure, and Contexture, make a different *Modus* of Matter, that different Modification will occasion different Forms; and as the Forms are varied by several Contextures and Modifications, so those Bodies will acquire different Qualities, since Qualities are the Result of, and flow from Forms; for Qualities arise from Forms, as Forms do from different Contextures and Modifications of the Parts of Matter, of various Sizes, Figures and Positions.

How different Qualities affect one another.

Now

Now ſince from what hath been ſaid, it plainly appears what I mean by Qualities; it will be no difficult Matter to imagine, how evident Qualities may affect one another, ſince Qualities flow from Forms, which conſiſt of Parts of a different Size and Shape from one another: For as that Difference happens, no doubt but their Effects on one another will be different alſo; various Particles of Matter affecting one another after ſeveral Manners; for when Particles of particular Sizes and Shapes are mixed together, and in Motion, they will be apt either to quicken and promote, or obſtruct and hinder their reſpective Degrees of Motion. If they be volatile and ſubtile, they will be apt to enter into the Pores of groſſer Bodies, whoſe Parts are ſo formed together in their Contexture, as to leave Pores large enough to receive them; if the Figure of their Parts be ſharp and cutting, they will be apt to divide and ſeparate the Parts of other Bodies, whoſe Texture is not too firm to reſiſt them; and conſequently will occaſion a Comminution or Corroſion. If they be hooked, and contain different Angles, they will be apt to take hold of one another, and entangle the Parts of other Bodies; and by obſtructing their Motion, render them leſs fluid, or milder in their particular Qualities. If they be round and ſmooth, they will dull the Edges of ſharp acrid Humours, by an Interpoſition of their Parts; and thus, according to their different Qualities, they will have different Effects. But theſe, and the reſt of the Qualities of Chirurgical Applications, ſhall be more fully explained and illuſtrated in their proper places.

CHAP. II.

Of the General Diviſions of Chirurgery.

Of the Diviſions of Chirurgery.



Hirurgery in General is divided into four Parts, *viz. Syntheſis*, *Diæreſis*, *Exæreſis*, and *Anapleroſis*.

Syntheſis teaches how to join together Parts unnaturally ſeparated; whether by ſharp Inſtruments, dividing the ſofter Parts, or external Violence producing a Solution of Continuity in the ſolid Parts.

Diæreſis inſtructs us how to ſeparate Parts which preternaturally happen to be joined together.

Exæreſis tells us how to take away what is ſuperfluous: And

Anapleroſis informs us how to add what is wanting, and to ſupply the Loſs of Subſtance happening in any Part.

But ſince theſe Parts of Chirurgery happen, in ſeveral Caſes, to be jointly concerned; it is impoſſible to write of Chirurgery in General under thoſe Diviſions: But ſince all Caſes in Chirurgery come under the Denomination of Tumours, Ulcers, Wounds, Fractures or Diſlocations, we ſhall treat of them under thoſe General Heads; and firſt proceed to conſider the Nature of Tumours.

A SYSTEM OF Rational Chirurgery, &c.

PART I.

CHAP I.

Of Tumours in General

A Tumour is a Diſeaſe, in which the Parts of the Body recede from their natural State, by an undue increaſe of their Bigneſs. *The Definition.*

The Cauſes which concur to the Production of Tumour, are, either Antecedent, Procatartick, or Conjunct. The Antecedent Cauſe is, The peccant Matter contained in the Maſs of Blood, whilſt it circulates, and is mix- *The Cauſes.*

ed with the whole. The Procatartick Cauſe is, That which occaſions a Separation of the morbifick Matter from the Maſs of Blood, and diſpoſes it to be thrown out, and diſcharged upon any part; And this may be done, either by Heat, or Cold; accidental Heat occaſioning a critical Separation of that Humour; and Cold incraſſating and thickening the Humour ſo much, that it becomes too groſs to paſs through the ſmall Veſſels. The Conjunct Cauſe is, The Humour diſcharged upon the Part, and which produces the undue increaſe of its Bigneſs. But the Humour diſcharged upon the Part, may not only be accounted a Conjunct Cauſe; but alſo, the Weakneſs of the Part which receives it; for if the natural Tone of the Part were not weakened, any other Part might as well give way to the Reception of the morbifick Matter. But when any Part by a violent Blow, or other Accident, hath the Tone of it's Fibres weakened; or by any precedent Diſtemper; or when, by the natural Structure of the Parts, their Fibres contract a natural Debility and Weakneſs; they are, by that means, rendered more apt to give way to the Reception of diſtempered Humours, and conſequently concur with the peccant Matter, to the Production of a Tumour. But the Weakneſs of the Part may not only be eſteemed as a Conjunct Cauſe, but likewiſe, as an Antecedent Cauſe, in as much as it preceded the Tumour.

Differences. According to the different Qualities of the Conjunct Material Cauſe; and the different Parts upon which it is diſcharged, Tumours receive their various Denominations.

When Blood and *Serum* mixed together, happen to be thrown upon any Part, they occaſion either an Inflammation, or *Phlegmon*, *Eryſipelas*, *Furunculus*, *Epinyctis*, *Terminthus*, *Phyma*, *Phygethlon*, &c. When the Maſs of the Blood alone produces a Tumour,

mour, it occaſions a *Varix*, *Ecchymoſis*, or an *Aneuriſma*; Choler produces *Herpes*, Phlegmatick Humours, *OEdema*; Melancholy, *Scirrhus*; *Atra Bilis*, *Cancer*; wateriſh Humours, *Hydrocephalus*, *Hydrops* and *Hernia aquoſa*; ſalt Humours, *Scabies* and *Lepra*; Wind, *Emphyſema*.

As the peccant Matter is diſcharged upon different Parts, Tumours likewiſe receive different Denominations, as, *Bubo*, *Parotis*, &c.

Another Difference in Tumours happens from their Degrees of Increaſe; the Material or Conjunct Cauſe, in ſome, being thrown upon a part ſuddenly, and with great Pain; in others, without Pain, and by ſlow degrees.

By Fluxion. When a Tumour is occaſioned, by a ſudden Influx of Humours, it is ſaid to be made by Fluxion; and the Humour that flows to it, is generally hot. Fluxion is weaker or ſtronger, according to the ſeveral Accidents that attend it, whether they be naturally or artificially occaſioned. The Accidents of Nature which increaſe Fluxion, are Pain, corroſive Humours, Wounds or Contuſions: Other Accidents are, hot Medicines, bliſtering Plaiſters, external Heat, cupping Glaſſes, *&c.*

By Congeſtion. When a Tumour increaſes by ſlow degrees, and without pain, it is ſaid to be made by Congeſtion: Theſe Tumours are generally cold; and the Parts being weakened, have loſt their natural tonick Stricture; ſo that they eaſily give way to the Impreſſion of Humours, which are either thin and ſerous, or thick and phlegmatick: The latter are apt to coagulate and indurate, the thinner parts being evaporated; and then they occaſion *Scirrhous* Tumours, or *Exoſtoſes*; but ſome kind of Tumours, which riſe by ſlow degrees, owe their Origin to the undue appoſition of the Parts of natural Juices, as, *Sarcoma*, *Hernia Carnoſa*, &c.

When

When Wind happens to be mixed with Humour, and gets the Predominancy, it occaſions a particular Tumour, called, *Emphyſema.*

Of the formal Cauſe of Tumours.

Thus much being ſaid, as to the concurring Cauſes, and differences of Tumours in general; it may not be amiſs, before we proceed, to conſider, what is the true formal Cauſe, or the manner how a Tumour is formed; and after what manner the peccant Matter occaſions an undue increaſe of Bigneſs; and how Accidents contribute to the quicker or ſlower increaſe of them.

The better therefore to apprehend what may be the true formal Cauſe of producing Tumour, or the *modus formandi*, it will be requiſite to conſider, that the whole Body, and conſequently every diſtinct Part, is altogether vaſcular; and as every Part, conſidered as organical, is compoſed of Veſſels of ſeveral kinds; ſo the Humours, that circulate through thoſe Veſſels, alſo vary; and conſequently, as thoſe different Veſſels, or ſeveral Humours are in fault, ſo they will produce Tumours of different kinds, attended with Symptoms and Accidents, peculiar to their differences: As for example, if the Blood be in fault, it muſt produce it's ill Effects in the Blood Veſſels; or elſe, by fault of the Veſſels it ought to be contained in, it muſt be extravaſated: The *Serum*, or proper Humour ſeparated in each Gland, muſt likewiſe be peccant, or the Veſſels themſelves in fault; for as long as the Humours are of their natural Temper, and the Fibres of the Veſſels retain their natural Strength, and due tonick Stricture; the whole machine or organical Engin, will perform it's Office without Fault; but if the Humours in the ſmall capillary Veſſels be too groſs and thick to paſs eaſily through them, and circulate, they will be apt to ſtagnate, and cauſe an Obſtruction, and hinder the due Circulation; and if any of the ſmall Veſſels be obſtructed, ſince the Humours are in conſtant Circulation

culation; ſucceſſive Humours, crouded by ſucceſſive Pulſations, on the obſtructed Part, for want of free Paſſage, will be apt to diſtend the obſtructed Veſſels, beyond their due Tone; and then the diſtended Veſſels, muſt of Neceſſity compreſs the adjacent Veſſels, which will occaſion an Obſtruction in them likewiſe; and conſequently, the Tumour in the firſt Veſſels, will occaſion it in thoſe adjacent; ſo that the Tumour muſt gradually increaſe, and likewiſe the Symptoms. Now if upon an Obſtruction of the Circulation, by ſucceſſive crouded Humours, the Veſſels are ſo far extended, as to cauſe a Solution of Continuity, and Rupture of the Veſſels; then conſequently an Extravaſation muſt follow, and the Tumour be ſtill enlarged. Again, if a Body be Plethorick, and the Veſſels very full and altogether diſtended, though the Humours be of a good Temper; yet any particular Veſſel having loſt, by an accidental Blow, or natural Weakneſs, it's due tonick Stricture, it will be apt to give way to the Preſſure of the Humours, and tumify; and that Tumour may be either ſo far extended, as to produce an Extravaſation, or elſe the Veſſel tumified, may preſs ſo much upon the adjacent Veſſels; that though there be no Obſtruction in it ſelf, it may cauſe an Obſtruction, and conſequently a Tumour in them. Again, if a Veſſel have a natural, or accidental Weakneſs, though there be neither Obſtruction through Groſsneſs, nor the Veſſels ruptured by Plethora; yet, if the Humours be ſharp and thin, and conſiſt of corroſive penetrating Parts, they may ſo far weaken and fret the Fibres of the Veſſels, as to render them liable to give way to Extravaſation by a ſmall Force.

From hence it appears, that a Part may be tumified, either by Obſtruction, Extravaſation, or the Extenſion and Dilating of the Veſſels through the Weakneſs of their Fibres; which are ſuch natural *How many ways a Part may be tumified.*

Con-

Conſequences, if we conſider the Body as a Vaſcular Machine, and the manner of the Circulation of the Humours, that there ſeems to be no occaſion for farther Proof, ſince what I have propoſed carries Demonſtration along with it; for we ſee, that when any Veſſel externally is compreſſed, it preſently tumifies, and that when one is ſwelled, it will preſs upon the next to it, is ſo natural, it admits of no Diſpute. How Extravaſation creates Tumour, is evident in *Ecchymoſis*, and *Aneuriſma*; and that the Veſſels, by Weakneſs, may give way to Tumour, is evident in a *Varix*, and that the Veſſels, when ſo tumify'd, may preſs upon, and obſtruct the Circulation of the Humours in the adjacent Veſſels, is evident in the Symptoms; ſince a Tumour always occaſions the Parts about it to ſwell.

How the Symptoms and Accidents of Tumours are occaſioned.

Since from what hath been ſaid it appears, how Tumour may be occaſioned; it is not difficult to conceive, that as thoſe Accidents that occaſion it, happen to be in different Parts, they will create different kind of Tumours and Symptoms; for if they happen in fleſhy Parts, where the Veſſels are full of hot Blood, the Circulation ſtrong, and the Veſſels cloſely compacted together; an Obſtruction will cauſe a violent Extenſion of the Veſſels, or an Extravaſation muſt be proportionably violent to the Largeneſs of the Veſſel ruptured, and the Violence of the Humours crouded on by the impulſe of Circulation: And ſince every Muſcle is contained in a proper and ſenſible involving Membrane, and each Faſciculus of Fibres, is tied together by proper Fibres, extended from the Expanſion of the Tendons; when theſe Membranes and Fibres are violently extended by the Tumour, it muſt needs occaſion Pain; and ſince the Veſſels extended, preſs againſt thoſe ſenſible Membranes, the free Paſſage of the arterial Blood, through the Parts about the Tumour, being ſtopped

and

and hindred, each Pulsation will make an Impression upon those Membranes, and cause a sensible Pulsation; so that such sort of Tumours must needs be attended with Pain and Pulsation, as well as Tension; and since Pain affects the Spirits, and causes more violent Expansions of them, and consequently, promotes Circulation, that Pain must occasion a feverish Heat and quick Pulse, which produces a Fever. How the violent Expansion of the Spirits may occasion a Fever, I shall not explain here, but refer the Reader to a small Tract of mine wrote some Years ago, about the Reason of the Heat of the Blood.

But to proceed, if Pain will occasion Heat, and Heat promote Inflammation, it is not only evident how internal Heat and Pain exasperate each other, and promote Tumour; but how even external Accidents may promote the Symptoms likewise; as external Heat, or hot Medicines, or whatever Applications cause Pain, whether corrosive Medicines, or cupping Glasses, *&c.* For if whatever heats causes Inflammation, and Inflammation causes Pain, *&c.* then Pain, occasioned externally, will do the same. And thus much for Tumours in fleshy Parts or any other, where Tension presses upon sensible Membranes, closely confined about the Tendons, or Ligaments of the Joints, or the sensible Membranes that invest the Bones.

When Tumours happen in glandulous Parts, which are less sensible, being not so closely confined by investing sensible Membranes, though the Vessels happen to be obstructed and tumified, or the Humours to be extravasated, or otherwise to be dilated, yet the Symptoms are less violent, the Heat and Inflammation being proportionably less.

Why Tumours made by Fluxion differ from those made by Congestion.

What hath been said may suffice to shew, the formal Causes of the Production of Tumours, and their Symptoms: It remains only that we should add,

add, why Tumours, which are ſaid to be made by Fluxion, differ from thoſe, which are ſaid to be made by Congeſtion.

And firſt, In Bodies which are affected with Tumours by Fluxion, as they are hot Tumours, ſo thoſe Bodies are full of Humours which are more eaſily inflamed. Secondly, The Parts affected with them are more ſenſible, and ſubject to be affected with Pain. Thirdly, In ſtrong Bodies the Pulſation of the arterial Blood is forced upon the Parts with more Violence. And, Fourthly, The Extenſion of the Parts is quicker and leſs gradual, which renders the Pain more exquiſite, than where the Parts are gradually extended, and give way to the Humours by degrees.

But in Tumours made by Congeſtion, the Humour is generally cold; the Humour ſlowly forced upon the Parts, and impelled by a gentler and leſs forceable Pulſe. Beſides, the Veſſels having loſt their Tone, eaſily yield to the Reception of the peccant Matter, and the Parts affected are leſs ſenſible of Pain.

As for thoſe Tumours which are occaſioned by Wind mixed with Humour, they generally happen in membranous Parts, which are leſs ſenſible; as in the Membranes, betwixt the Skin and the ſubjacent Parts; where, by the violent Expanſion of the Wind, thoſe Membranes are inflated, and ſtretched beyond their due and natural Tone; and only elevate the Skin without preſſing upon the Parts beneath them. Theſe Tumours often happen, and are occaſioned by Contuſions about the Joints eſpecially upon the *Ancon* or *Patella*.

Diagnoſticks.

But to proceed to Tumours occaſioned by Humour only. From what hath been ſaid, it will be no difficult Matter to aſſign their Diagnoſticks. If a Tumour proceed from any external Cauſe, it will be eaſily known; but if it proceed from an internal Cauſe,

Cauſe, it muſt be either by Congeſtion or Fluxion.

That which is made by Congeſtion increaſes gradually, without any evident preceding Cauſe, or much Pain, except about the Joints, or Parts very ſenſible. *Tumours by Congeſtion.*

If the Tumour be made by Fluxion, it is very painful, and increaſes ſuddenly, with Tenſion, Pulſation, and a Fever. There is another ſort of Fluxion, which Mr. *Wiſeman* calls Tranſlation; but ſince I believe the Diſtinction not material, I ſhall not here take notice of it. *By Fluxion.*

Tumours made by Fluxion have four Times or Degrees, *viz.* Beginning, Augment, State and Declination. Their Beginning is with the Extenſion of the Parts affected; when Tumefaction of the Veſſels is firſt occaſioned by Obſtruction, or Extravaſation of the Humours, and before they begin to ſtagnate and tend to Suppuration. The Increaſe is, when the Tumour is evident, and the Symptoms ſhew themſelves accordingly. The State is, when the Symptoms are at the Height, and the Tumour ſuppurates. The Declination is, when the Tumour as well as the Symptoms abate.

In the Prognoſticks of Tumours we are to conſider, That the more noble any Parts are, ſo much they are more dangerous; alſo Tumours internal are more dangerous than external. The Event varies likewiſe according to the Largeneſs of the Tumours, and the Accidents that attend them; and alſo according to the Quality of the Humour that occaſions them, whether it be hot or cold, groſs or thin, benign or malignant. *Prognoſticks.*

We are likewiſe to conſider the manner of their Termination, whether by Diſcuſſion, Suppuration, Corruption, Induration, or Retraction.

If they terminate in Diſcuſſion, the Tumours diminiſh, and the Parts are relaxed; if they tend to Suppuration, they are attended with Pain, Pulſation,

tion, and a Fever; but when the Matter is ſuppurated, thoſe Accidents ceaſe; and the Tumour riſing into a Cone, the Matter appears white, and fluctuates under your Fingers: But in crude Tumours, and thoſe that lye deep among the Muſcles, the Matter is not ſo eaſily diſcover'd; if they terminate in Corruption, the Tumour ſinks, and the Parts are livid and blackiſh; if in Induration, the Tumour and Pain decreaſe as they grow harder. If they end in Retraction, they preſently diſappear; and the Humour being mixed with the Blood, creates ill Symptoms, and a Fever.

The Intentions of Cure.

In the Cure of Tumours, three things are chiefly to be conſidered. 1. The Nature of the Part. 2. The Nature of the Tumour. 3. Its Time, and other Circumſtances.

The Nature of the Part to be conſidered.

Firſt in reſpect of the Part, we are to conſider, 1. Its Temperament. 2. Its Conformation. 3. Its Situation. 4. Senſe. 5. Its Uſe.

Firſt, in reſpect of their Temperament, ſome are hot, as the Muſcles, abounding with a vaſt Number of ſmall ſanguiferous Veſſels, and kept warm by a cloſe compacted *Paranchyma*. Others are colder, as the Tendons and Glands, which are more expoſed to the Influence of external Cold, and leſs defended and covered with warm Blood Veſſels within. Some are moderately moiſt themſelves, and require Medicines, neither too violently drying, nor too moiſt, as the fleſhy Parts; others dry of themſelves, require drying Medicines, as Bones; others of a looſe and ſpongy Nature, are naturally overwhelmed with their own Moiſture, as the Glands of Emunctories about the *Axilla*, *Inguen*, &c.

Secondly, The Conformation of Parts, either reſpects their outward Figure, or internal Compoſition. The firſt ſhews us what Cavities or Interſtices may receive Humours; and the latter, of what Parts, whether ſimilar or organical, they are compoſed

poſed of, which may ſuggeſt the moſt proper Intentions for their Relief.

Thirdly, The Situation of the Part is to be minded; for as the Part is more or leſs depending, ſo the Humours contained in the Veſſels, by their own ſpecifick Gravity, will be apt to preſs upon the Parts, and add to the Humours (which were heaped up by the other Accidents, and concurring Cauſes of Fluxion) ſo that if a Part be naturally depending, it muſt, if poſſible, be placed in ſuch a Poſture, as may give leaſt way to the preſſure of Humours; as an Arm is to be raiſed to the Breaſt, or a Leg to be raiſed by placing it upon a Couch or Stool.

Fourthly, If the Parts be of very acute Senſe, or the Parts adjacent; all poſſible Care is to be taken to prevent ill Symptoms.

Fifthly, Regard is to be had to the Part, in reſpect of it's Uſe, as it is more or leſs noble, ſimple or organical.

The Nature of the Tumour to be conſidered.

The Nature of the Part being conſidered, Secondly we are to conſider the Nature of the Tumour; as, whether it be hot, and made by Fluxion; or cold, and raiſed by Congeſtion; or mixed, and partly both. If by Fluxion, it is to be check'd by Evacuation of the Humours, by Bleeding and Purging, or by Revulſion, Derivation, Repulſion, Diſcuſſion, *&c.* If by Congeſtion, then purging with Reſolvents and Diſcutients, and ſuch Medicines as may ſtrengthen the Parts, may be convenient: If the Tumour be made partly by Fluxion, and partly Congeſtion, the Method is to be complicate likewiſe.

The Time, and other Circumſtances.

The third thing in General, in the Cure of Tumours, to be conſidered, is, its Time and other Circumſtances, as whether in the Beginning, Increaſe, State or Declination: And

Bleeding, why requiſite.

Firſt, In the Beginning of Tumours made by Fluxion, Bleeding is convenient, which is to be in a Quantity proportionable to the Violence of the

Diſeaſe, and the Strength of the Patient; for the ſanguiferous Veſſels being, by this means emptyed, the Humours are not ſo plentifully forced upon the Part; and conſequently, if there happen an Obſtruction, the Veſſels about it are leſs ſwelled and crouded; and if the Veſſels happen to have been ſo much diſtended, as to give way to an Extravaſation, they are by this means ſo much emptied and evacuated, as eaſily to reaſſume and receive the extravaſated Humours into the Blood again; beſides the Quantity of evacuated Blood, making room for an equal Quantity of thinner Liquors, to attenuate and dilute the whole Maſs, the Matter which occaſioned the Obſtruction, may, by that means, be thinn'd and made apt to move, and diſpoſed to mix with the reſt of the Maſs. But this is not the only Advantage of Evacuation; for the Humours are not only attenuated, and the Veſſels emptied, but the Heat and Inflammation likewiſe abated; and that three Ways: Firſt, by taking away Part of thoſe hot Humours within; Secondly, by making room for medicinal Liquors to correct and reſtrain the Heat of thoſe left behind; Thirdly, and conſequently, by abating the Fluxion, and Inflammation of the Part.

Thus, by Bleeding, not only the antecedent Cauſe is diminiſhed, which might ſtill feed the Tumour, but likewiſe the conjunct Cauſe is inclined and diſpoſed to be retracted into the Blood again.

Purging, why uſeful. But as Bleeding is, for the abovementioned Reaſons, neceſſary both in reſpect of the antecedent and conjunct Cauſe, in the Beginning of Tumours, Evacuation by Stool will be alſo requiſite; by Clyſters or lenitive Purging, or ſtronger, as the Nature of the Humours require, or the Strength of the Patient will admit; by this means the *Cacochymia*, or Quantity of ill diſpoſed Humours, which might diſorder the Maſs of Blood, or ſupply and add to the Matter of the Tumour, are diminiſhed, and the

Matter

Matter lodged in the Part, disposed to go off into the Mass of Humours; for Purging is not only beneficial, as it makes Evacuation and Discharge of peccant Humours, but likewise by raising a gentle Heat, and quickening the Circulation of the Blood, it at once promotes the quicker Digestion, and helps to attenuate Crudities; and also, by pressing the Blood upon the obstructed Part, helps to loosen and thrust forwards the Humours there lodged; besides, purging Medicines, according to their different Qualities, perform the Office of Alteratives, and diminish the Humour, by altering its Qualities as well as Quantity; as *Cassia* and *Manna*, which not only purge away superfluous Humours, but by their lenient Balsamick Qualities, allay the Heat of sharp Humours; their viscous ramous Parts dulling and entangling the sharp and corrosive Edges of hot Humours.

In Tumours where viscous Humours obstruct the Vessels, and the Blood likewise abounds with hot and sharp *Serum*, lenitive Purges not only allay the Heat, and evacuate and discharge the hot *Serum*, but also help to digest and dissolve the grosser Phlegm. But in cold Tumours, where the Phlegm is more stubborn, stronger Purgatives are to be made use of, and more frequently repeated.

Lenitives Purgers are such as *Senna*, *Cassia*, *Manna*, *Tammarinds*. *Crem. Tart. Elect. Lenitiv. Diaprun. Diacassia cum Manna*, *Syr. Ros. Solut. de Rhabarb.* &c. But where stronger Purgatives are convenient, *Pil. ex duobus*, *Gambug.* and *Elaterium*, may be made use of.

Thus much may suffice concerning the Advantages and Use of purging Medicines in General; but when we come to particular Cases, we shall more exactly and particularly account for their Effects, both as they are assistant in the Cure, as Purgers, and how they are beneficial as Alteratives.

What is to be done in respect of the material conjunct Cause.

But to proceed to the other general Intentions in the Cure of Tumours, we are not only to make use of Bleeding and Purging, which chiefly respect the antecedent Cause; (though they in some measure contribute to the Removal of the Conjunct) but we are in the next place to have regard to those Intentions which tend to the Removal of the Conjunct, or material Cause, as it is lodged in the Part, which according to Mr. *Wiseman*, are reducible to these two general Heads, Translation and Evacuation, Translation is effected by Revulsion, Derivation and Repulsion; Evacuation by Discussion, Suppuration, and Apertion.

Of Revulsion.

By Revulsion the peccant Humour is retracted into the Mass of Blood, by which means it lyes in the way to be carried off, or diminished by Bleeding, Purging, or Alteratives, along with the antecedent Cause; or to be translated into some other more remote Part; and this is the more to be insisted on, when any noble Part is concerned, or in danger; and may be promoted by Cupping, Blistering or Ligature; which give occasion to the Parts to receive the Matter retracted into the Mass of Blood.

Of Derivation.

Derivation chiefly respects the antecedent Cause, where by giving the peccant Matter Diversion some other way, and in some Part near the Part affected, it is not so plentifully thrown upon the Part tumified.

Repulsion.

But to render Revulsion and Derivation both more effectual, Repulsion is necessary; for the Matter lodged in any Part is not easily retracted out of the Part, without the Assistance of Repellents to force and assist the Expulsion of it.

The Nature of Repellents.

Repellents are all either virtually, or potentially of an astringent Nature: Those which are virtually Repellents, are so by their evident astringent Qualities; but those which we call potentially Repellents, are Repellents by Accident, and Astringents *in potentia*, and are of a cooling or anodyne Quality; as, *Purslane*, *Lettice*, *Plantane*, *House Leek*, which are cooling,

cooling, and repel the Humours, by refrigerating the Parts; but ſuch as *Poppies*, *Mandrakes*, *ſuc. Solan. Muc. Sem. Pſylii*, repel the Humours by accident, their anodyne Qualities abating the Pain which inflamed the Parts, and encouraged the Fluxion; whereas *Flores Roſar. Equiſet. Cort. Granator. Baluſt. Sloes*, *Acorns*, *Cypreſs Nuts*, *Mulberries*, *Sumach*, *Bole Armenick*, *Red Wine*, *Sang. Dracon.* &c. are Repellents, by their evident aſtringent Qualities. Compound Repellents alſo are ſuch as act either by their evident Aſtringency, or as they cool and refrigerate the Parts: As *Ol. Roſar. Unguent. Roſat. Popul. Album*, *Unguent. Nutrit. cerot. Refrigerans Galeni. Emp. de Bolo*, *de Minio*, *Oxycratum*, *Oxyrrhodinum*; to which I ſhall add the following Preſcription from Mr. *Wiſeman*. ℞ *Suc. Solan. plantag. Semperviv.* āa ℥ij *Acet. opt.* ℥ſs. *Muc. Sem. Pſylii*, *Cydon extract. cum aq. Roſar*, āa. ℥j M. In which you may dip Cloaths, and frequently renewing them, apply them to the Part affected; to which may be added, *Pulv. Gland. Flor. Roſ. Rubr. Baluſt.* āa. ℥ij. *Bol. Armen.* ℥iij. *Ol. Myrtil. Unguent. Roſat. an. q. ſ. f. mixtura*, to be apply'd in form of an Emplaſter over the part affected.

As to the Uſe of Repellents, it is to be obſerved, *When to be apply'd.* Firſt, That they are only to be apply'd in the Beginning, whilſt there is Hopes of preventing Suppuration; for if once the Tumour tends to Suppuration, they rather prolong the Diſeaſe, by cooling the Part and obſtructing Digeſtion. Secondly, The Uſe of them is to be forborn, when the Tumour is malignant or upon the *Criſis* of a Fever; for in ſuch Caſes, the Tumour is rather to be encouraged; ſince, if the Humour ſhould be repelled into the Maſs of Blood again, it might renew the Symptoms and cauſe a Relapſe.

The manner of their producing their Effects.

Thus much being ſaid of the Uſe of Repellents, before we proceed, it may not be amiſs to conſider the manner of their Operation; which will eaſily appear if we conſider, that in Tumours made by Fluxion, the Parts are not only diſtended beyond their natural Tone; but that, by either the heat of the Humours, or the heat acquired by Accident, they grow inflamed and very painful. Now, tho' no Tumour can happen without an Extravaſation, or an Obſtruction, which occaſions a Tumefaction of the Veſſels; yet the Veſſels may be ſo obſtructed by the Groſſneſs of the Humours, as to hinder a free Circulation of the Blood, without totally ſtopping it; for if they are ſo groſs as not eaſily to paſs through the capillary Veſſels, the Blood, crowded on by ſucceſſive Pulſations, will diſtend the Veſſels for want of a free Diſcharge; ſo that an Obſtruction may happen without a total Stagnation; for if once the Blood hath wholly loſt its Circulation, it will preſently coagulate, and cauſe a Stagnation, and the Humours ſo ſtagnating, will ſoon tend to Corruption and Suppuration, equally as if they were extravaſated. But if in the beginning, whilſt the Veſſels are only diſtended and tumefied for want of free paſſage, after Revulſion made by bleeding and purging, Repellents are duly apply'd, they will ſo conſtringe and contract the Part, as to aſſiſt the Veſſels to preſs out the ſuperfluous Humours, whilſt they are yet fluid and only too thick to paſs the Veſſels, without ſome acquir'd Force to aſſiſt that of Nature. And that Repellents, which are of an aſtringent Quality, do contract and conſtringe the Parts, and conſequently aſſiſt them to preſs out the contained Humours, by aſſiſting their tonick Conſtriction, is evident from the Effects they have, not only upon the Parts where they are apply'd, but by their evident Effects upon the Tongue, which they preſently contract and make

make the Mouth rough; and even the Part it ſelf, to which they are apply'd, hath its Skin preſently wrinkled and contracted.

How Anodynes and cooling Medicines aſſiſt Repellents.

And as Repellents which are aſtringent in Nature, evidently contract the Parts, ſo thoſe which contribute towards the ſame Effect, by accident, are either of a refrigerating or anodyne Nature: Anodyne Medicines abate Tumour, as they relieve that pain which increaſes Fluxion; whilſt refrigerating Medicines allay the preternatural Heat of the Humours; and by abating the extraordinary Fermentation, not only contract the Parts, but the Humours themſelves, and conſequently diſpoſe them to yield more eaſily to the Aſſiſtance of Revulſion, and to recover their free Circulation: So in a *Varix*, the Blood collected in the diſtended Veſſel, upon contraction of the Veſſel, by preſſure, or any other equivalent force, paſſes on and circulates with the reſt of the Maſs. And as the Humours contained in the Veſſels by a partial Obſtruction, may be preſſed out by Repellents, eſpecially aſſiſted by the powerful force of good Bandage, ſo even when the Blood, or *Serum*, is extravaſated, before it ſtagnates and coagulates, by the Uſe of Repellents and Bandage, it may be preſſed back into the Veſſels.

The Uſe of Repellents to be left off.

But when once the Obſtruction hath continued ſo long as to become total, and wholly to hinder Circulation; or when the Humours extravaſated, begin to ſtagnate and coagulate, then Repellents are of no Uſe; the Matter thus ſtagnating, preſently tending to Putrefaction and Suppuration.

Tumour produced without a total Obſtruction.

But before we proceed, to conſider the Tumour as it tends to Suppuration; to make it more evident, that a partial Obſtruction is ſufficient to cauſe Tumour and the Symptoms of it, Pain and Inflammation; we may obſerve, that if only a Ligature be made upon any Part, ſo as to obſtruct the free

Circulation of the Blood, the Part below the Ligature presently tumefies and grows painful: To which Observation we may add, the known Effects of suppurative Bandage; and in an *Hemicrania*, upon violent Colds, where the Glands are clogg'd and obstructed so as to hinder the natural Separation of the excrementitious Phlegm, by its proper Emunctories, the arterial Blood being deny'd its free Passage, the Arteries presently grow tumid, and the Parts very painful, the Blood being too plentifully crowded upon the Extremities of the Vessels, and faster than it can be forced forwards into the Extremities of the Veins; but when the Glands are so far relieved of their Obstruction, that they are able again to separate that Phlegm, the arterial Blood having its free Passage through the capillary Vessels, the Tumour of the Vessels ceases, and the Pain remains no longer.

But when the Matter collected in the Parts stagnates, and either may not properly, as when a Tumour is malignant or critical, or when it otherwise cannot be expelled by the forementioned Intentions, it is to be discharged another way, *viz.* either by Discussion, or Suppuration, and Apertion.

Of Discussion. Discussion is such a Resolution of the peccant Matter as disposes it to be breathed out by insensible Transpiration, or to be received back into the Mass of Blood; and since the Humour is coagulated, so as to cause a Stagnation, to dispose it to such a Discharge, it must be thinned and rarify'd, and the Skin likewise must be thinned and rendered more lax, that its Pores being open, may more easily give way for the Transpiration of the rarify'd Matter; but if it lies deep, it will not easily be carry'd off that way, but of the manner of Discussion more anon.

Since then in order to Discussion, the Matter is not only to be rarify'd, but that the Pores of the Skin

Skin are to be made more lax and open alſo, Medicaments of a Diſcutient Nature, muſt have warm and ſubtile Qualities.

But if the Tumour have acquired Inflammation with Hardneſs, ſuch Medicines are proper, eſpecially in ſoft Bodies, as are not only rarifying, but alſo emollient, as, *Rad. Althææ & fol. Malv. violar. ſem. Lini. fænug. fl. Chamæmel. melilot. ſambuc. farin. hord. Lentium*, which may be uſed in the Form of Cataplaſms, made up with ſome of the following; *viz. Ol. olivar. axung. porcin. anſerin, gallinæ, ſevum ovinum, vitulinum, vaccinum.* The newer theſe Fats are, the more ſoft and emollient, but as they grow old and rancid, their Parts being more ſubtile and attenuated, they acquire diſcutient Qualities. To the Diſcutients already mentioned, we may add, *Ol. Chamæmel. Lumbricor. Sambuci, lini, Irinum & Emp. Diachyl. Symp. de melilot comp.* and *de Mucilaginibus*, alſo Fomentations made of *Summitat. Abſinth. Flor. Chamæmel.* &c.

To theſe milder Diſcutients Mr. *Wiſeman* thinks fit to add Aſtringents; but ſince he ſuppoſes Diſcuſſion to be performed by Tranſpiration through the Pores of the Skin only, Aſtringents muſt rather hinder than promote it; ſince inſtead of rarifying and opening the Pores, they contract and ſhut them up; but ſince Aſtringents mixed with Diſcutients, are found beneficial, we ſhall endeavour to account for their Effects a more reaſonable way. Forms of Diſcutients mixed with Aſtringents preſcribed by Mr. *Wiſeman* are as followeth. ℞ *fol. & Rad. Althææ M. j. Flor. Cham. M. ſs. Flor. Roſ. rub. Nymphææ* āa *P. j. Sem. Cydon.* ℥j. *Flor. Fabar. orob.* āa ℥iij. ſs. *coq. in ſero lactis & f. Cataplaſ. ſub fine addendo ol. roſ. & chamæmel.* āa. q. ſ. Or, ℞ *fol. malv. parietar. plantag.* āa. *M. j. ſem. lini. fænugrec* āa. ℥j. *ſummitat. Abſinth. Flor. Sumbuc.* āa. *M. ſs. Flor. Roſ. rubr. M. j.*

Whether Aſtringents promote the Effects of Diſcutients.

coq.

coq. in q. ſ. vini tenuis, addendo farinæ hord. ʒiv. *ol. olivar. immatur. q. ſ. f. Cataplaſma.*

If the Matter lies deeper, the following Cataplaſm is preſcribed by Mr. *Wiſeman.* ℞ *Rad. Althæ. Ebuli, Iridis recent.* ʒij. *Rad. Bryon. cucum. agreſt.* āa. ʒj. *ſs. Flor. Cham. melilot. aneth.* āa. *M. j. ſem. lini, fænug.* āa.. ʒj. *f. Cataplaſma, addend. axung. Anſeris, anatis* āa. ʒj. *mel. Commun.* ʒij.

Where ſtronger Diſcutients are required, eſpecially in cold Tumours, the following may be made uſe of. *Summitat. Origan. Thymi, Calaminth. Puleg. roriſmarin. Hyperici, centaur. min. bac. Laur. Junip. Sem. Cymin. Rut.* &c. *Gum. Galban, Ammoniac, Bdellium, Opoponax.* To which may be added theſe Compounds. *Ol. ſcorp. Nardin. Euphorb, petroleum, Unguent. Aregon. Martiat. Emp. de Ranis cum Mercur. de baccis Lauri, Cicutæ cum, Ammoniaco.* To which I ſhall add the following Præſcription from Mr. *Wiſeman.* ℞ *Rad. enul. Campan. Bryon.* āa. ʒij. *Summit. puleg, origani, Scabioſ. Abrotan.* āa. *M. j. bac. Lauri, Junip.* āa. ʒj. *Sem. Cymini,* ʒſs. *coq. in aq. fontan. & vini alb.* āa. ℔ij. *Colat. add. Acet. Vin.* ʒij. *Salis Nitri* ʒj. *M. f. Fomentatio.* Or, ℞ *Cin. Sartarmentor Salis Nitri* āa. ʒj. *ol. Vet.* ʒiv. *Ceræ* ʒiij. *Terebinth. clar.* ʒj. *M. f. Cerot.*

What is to be conſidered in reſpect of the Effects of Diſcutients.

Thus much being ſaid of the Medicines proper, and commonly uſed in diſcuſſing Tumours, we ſhall proceed to conſider more particularly the manner of producing their Effects. And ſince the Matter to be diſcuſſed is more firmly impacted and ſettled in the Parts, in the Increaſe, than in the Beginning; it will be requiſite to conſider, not only where it is lodged, and how Diſcutients attenuate and rarify it, but alſo, when it is attenuated and rarified, which way it is moſt likely to be diſpoſed of, and carried off.

In reſpect of the Part where it is lodged, it muſt be either ſuperficial, or deep; and conſequently, muſt

muſt with more Eaſe, or Difficulty, be affected and worked upon by external Applications; for the more ſuperficial the Humour is, external Applications muſt affect it, and exert their Qualities with more Vigour; and conſequently, the deeper it lies, the ſtronger Diſcutients will be required: But in regard to the Part in which the Humour is contained, we are not only to conſider, whether it be ſuperficial or deep, but likewiſe in what kind of Parts it is lodged; *Viz.* Whether in a fleſhy or a glandulous Part; or, whether in the Interſtices of the Muſcles, or about their Tendons; by which means we may know, what kind of Humours are to be diſcuſſed, and how they may probably be carried off.

But to proceed, let the Matter be lodged in any Part whatever, from what hath been ſaid of the Nature of a Tumour, it is evident, that the Matter which Forms the Tumour, muſt be either coagulated in the Extremities of the Veſſels, or elſe extravaſated; and ſince it is ſo firmly lodged in the Part as to reſiſt the Effect of Revulſion and Repulſion, we are to conſider, what Diſcutients may do with it. And ſince they are applied only to the external Superficies of the Body, there muſt interpoſe a conſiderable Number of Veſſels, through which ſeveral Humours circulate, according to the Depth of the peccant Matter; but if we conſider the ſtrange Poroſity of human Bodies, (to evince which I ſhall refer the Reader to the Works of the honourable Mr. *Boyle*) and that Medicines which have diſcutient Qualities, are compoſed of Parts very penetrating and ſubtle, and emit very fine Effluvia, which eaſily, at a Diſtance, affect the olfactory Nerves; I ſay, if we conſider all this, it will be no difficult Matter to imagine, how the ſubtle Effluvia of Applications, penetrating through thoſe Pores, may affect the peccant Humours in the Tumour; for though the

Humours

Humours which circulate through interposing Vessels, might carry the Effluvia which pass into them, along with them, yet a great many would escape, and pass through the *Interstitia* of those Vessels.

How Discutients produce their Effects.

Now since milder Discutients consist of Parts, which are emollient, soft and mucilaginous, as well as that they emit subtle, aromatick Effluvia, it is but reasonable to think, that by their emollient Qualities they will not only relax and soften the Skin; but that, as all Emollients, they will be anodyne and assuage the Inflammation and Pain, and that by relaxing the Skin, they will render the Pores more open, and ready to receive the gentle, aromatick Effluvia. But when Discutients are stronger, and more powerfully emit their Effluvia, they themselves by their subtle, active Parts, will not only open the external Pores, but penetrating through the Pores of the Body, they at last exert their attenuating Qualities, on that Matter which occasions the Tumour; where their volatile and active Particles insinuating themselves betwixt, the grosser Parts of the stagnating Matter they gradually separate and divide it's Parts, and restore it to it's natural State and Degree of Tenuity and Thinness. That the volatile, aromatick Effluvia of Discutients, do penetrate the Pores of the Parts, and attenuate the peccant Humour, is evident from their Effects; and that they produce their Effects by dividing and separating the Parts of that Matter, is as evident, since it could not otherwise be discussed. But when that Matter is attenuated, the Question is which way it is dispersed; it is generally

Which way the Matter discussed is disposed of.

supposed, that it transpires through the Pores of the Skin; but though the fine Effluvia of Volatiles may easily pass through the Pores of the Body, and be conveyed to the Part, yet it would be very difficult to imagine, how a Humour so gross as to be

inca-

incapable of circulating through capillary Veſſels, ſhould readily paſs through the fineſt Pores; for if this diſtempered Humour could find Paſſage there, much more would the thin and more attenuated Maſs of Humours paſs that way; but ſince that is impoſſible, it is more reaſonable to ſuppoſe, that, when that Matter is render'd thin enough, it circulates along with the Maſs of Blood; for, from what hath been ſaid, it appears, that an Obſtruction may be made without an Extravaſation; and when the Humour, though too groſs, is contained in it's proper Veſſels, it is more reaſonable to ſuppoſe, that it circulates again, when reſtored to its natural State, than to contrive it an impoſſible way through the Pores of the Skin.

But ſuppoſing the Humour were extravaſated, when it is again attenuated, it would ſooner be reaſſumed into its proper Veſſels, the way it went out; or paſs through the Pores of its own Veſſels into its proper Channels, than make its way through ſeveral Veſſels to the Pores of the Skin.

Why Aſtringents mixed with Diſcutients are ſerviceable.

Since then it is moſt proper to ſuppoſe, that the Humour, which is the cauſe of Tumour, is by Diſcuſſion made thin enough to circulate through its proper Veſſels; from hence appears the Reaſon, why Aſtringents mixed with Diſcutients may be ſerviceable; for when Diſcutients have divided and loſen'd the Parts of coagulated Matter, ſo as to reſtore it to its due Thinneſs, the Aſtringents contracting the Parts conſtringe the Veſſels, and ſo promote its Protruſion through its proper Channels; whereas they are ſo far from aſſiſting Tranſpiration, that by ſhutting up the Pores, they muſt needs hinder the Diſcharge of it that way, ſo that it evidently appears that Diſcutients mixed with Repellents only promote Repulſion.

But

But when Diſcutients are made uſe of ſeparatly, and the Humour lies ſuperficial, and near the Pores of the Skin, they may probably diſpoſe ſome Part of it to go off by Tranſpiration.

All that I ſhall need to add farther in reſpect of the Effects of Diſcutient Medicines, is, That as their very ſubtle and volatile Effluvia, divide and ſeparate, and conſequently diſintangle the coagulated Parts one from another, and thereby contribute to the attenuating of the Humour; ſo, thoſe minute Parts being in a quick Motion, raiſe a Ferment in the Part, and by their gentle Heat, cauſe the Humour there contained to expand it ſelf; by which means, the Parts of it being ſeparated one from another, give way for the *Serum* of the Blood, or the finer Lympha to interpoſe its Parts, and ſo render it more fluid. So Glue immerſed in Water, over a Fire, when the active Parts of the Fire ſeparate the Parts of that viſcous Body, they make way for the Water to interpoſe it ſelf; and thus, betwixt them both, they promote its Solution, and attenuate ſo firm a coagulated Subſtance.

I ſhall only add one thing further, to ſhew how reaſonably the Matter diſcuſſed may be ſuppoſed to circulate in its proper Veſſels again; and that is, what we commonly obſerve in Tumours made by Tranſlation; where the morbifick Matter which occaſioned a Tumour in one place, is evidently reaſſumed into the Blood, and again diſcharged and caſt off upon another.

Suppuration, when to be promoted.

But when the Matter which produces a Tumour, is ſo firmly fixed in a Part, as to reſiſt the Force of Diſcutients, and the Symptoms of Pain and Inflammation ſtill continue, it is time to deſiſt from the Uſe of them, and to make uſe of ſuch Medicines as promote Suppuration, which are ſuch as eaſe Pain and promote Concoction, by preſerving and promoting the natural Heat of the Part. And

that

that is to be done accordingly as the Part it ſelf is wanting and deficient; for if a Tumour happen in a fleſhy Part, which is of it ſelf warm, it will more eaſily be brought to Maturity, than when they proceed from ſerous Humours, which lie cold about the Joints. If the Tumour proceeds from Blood, it produces laudable Pus, if the native Heat be ſtrong, or be encouraged by proper Medicines; but if the Heat be faint, or other Humours be mixed with it, the Matter is accordingly more or leſs crude, and differs in Colour, or other Qualities, according to the Qualities of the Humours.

If a Tumour be made by Tranſlation, it ſometimes hath Matter in it from its firſt Appearance, but they generally lie deep under the Muſcles, and occaſion no external Inflammation, till the Matter reaches near the Skin; therefore in theſe Tumours, the Symptoms of Suppuration are not to be waited for externally, but they are to be opened, as ſoon as any Quantity of Matters offers it ſelf, to prevent its ſpreading or corruping the Parts beneath it.

Medicines which promote Suppuration.

As for Medicines which promote Suppuration, they are of two kinds, *viz.* Simple or Compound. The Simple are *Aq. Tepida* uſed in Fomentation, *Oleum maturum*, or the Fats of domeſtick Creatures mixed with Anodynes and Suppuratives. *Fol. malv. parietar. Mercurial.* decocted in *Hydrolæo* with *farina Tritici*, &c. *Rad. lil.* &c. To theſe I ſhall add the following Forms of Cataplaſms out of Mr. *Wiſeman.* ℞ *Rad. Althææ. lil. alb.* āa ℥ij. *fol. Tuſſilag. malv. biſmalv.* āa. *M. j. coq. in brodio, terantur, adjectis farin. ſem. lini.* ℥j. *farin. tritici* ℥ij. *axung. porcin. butyr. recent.* āa. ℥j. *ſs. croci pulv.* ℈ij. *vitel. ovi. unius. M. f. Cataplaſm.* In cold Tumours, or where the Humours lie deep. ℞ *Rad. Brion. Lapath. acut.* āa. ℥ij. *coq. & cribrantur per ſetaceum, addend. cappar. & allior. ſub cineribus coct.* āa. ℥iij. *ferment. acris.* ℥ij. *pulv. ſem. lini & fænugræc.* āa. ℥j. *tritici* ℥ij. *axung. poran.*

porcin. ℥ij. *mell. commun. axung. Anſeris Croc. pulv.* ãa. ʒj. *M. f. Cataplaſm.* When the Matter is tough, *Gum. Galban. Ammoniac. Bdellium & Empl. de Mucilaginibus, Diach. cum Gum.* &c. are convenient.

As Suppuration is nothing, but a Tendency to Corruption; ſo whatever promotes and encourages the natural Heat of the Parts, and quickens Digeſtion, haſtens Suppuration, and the ſooner inclines the ſtagnating Humours to corrupt and putrify; for when once the Humours ſtagnate, and are excluded from the reſt of the Humours in Circulation, they no longer can be eſteemed Parts of that Body, but rather ſuperfluous and excrementitious; though for want of free Vent for their Excluſion, they are ſtill retained within its Parts.

And ſince theſe peccant Humours, happen to be diſcharg'd in Parts, where Nature is unfurniſh'd with proper Veſſels for their Excluſion, they ſeem to force their own way by Suppuration.

How Suppuration is promoted. As for the manner how Suppuration is performed, we are to conſider, firſt, how it is performed by Nature, and how it is promoted by Art. The better to underſtand how it is performed by Nature, we are to conſider the Qualities of the Humours which tend to Suppuration; and next, the Qualities of thoſe Medicines that aſſiſt Nature.

By Nature. And firſt, If Blood be the Matter to be ſuppurated, or be predominant, ſince it abounds not only with volatile Salts, but is alſo ſtrongly impregnated with ſulphurous Particles, when it happens to ſtagnate and tend to Putrefaction, thoſe ſulphurous and ſaline Parts preſently ſeparate and diſintangle themſelves from the groſſer Phelgm; and ſince the Parts of all volatile Bodies, are naturally in Motion, they gradually fret and ſeparate the Parts of the groſſer Phlegm; and even the tender Branches of the capillary Veſſels themſelves, till at laſt

laſt the volatile and ſulphureous Parts, being predominant, the Matter acquires the Form of Pus, and putrifies the adjacent Parts, till Vent is given, either by their own Force, or the Aſſiſtance of Art.

Thus by gradual Degrees of Digeſtion, Suppuration is promoted, which is likewiſe encouraged by the natural Heat of the ambient Parts; for as the natural Heat of the Parts is greater or leſs, ſo the Matter of the Tumour is kept accordingly warmer, its volatile Parts are ſooner diſintangled, and the Crudities digeſted, by the Influence of the warm *Effluvia* of the Humours about it. And as the warm *Effluvia* of the Parts promote Digeſtion and Suppuration, ſo external Applications tend to haſten the Intentions of Nature, which, as they conſiſt of more or leſs warm Parts, the volatile *Effluvia* of them, aſſiſt thoſe inherent in the Matter more powerfully to exert themſelves. *How aſſiſted by Art.*

Now as a Tumour is more eaſily ſuppurated, when the coagulated Blood is the occaſion of Tumour, by natural Heat, and the Aſſiſtance of external warm Applications; ſo when the Matter of Tumour is *Crude Serum* only, or lies about the Joints, there is ſtill more Neceſſity of external Help, and the Applications are to be ſo much the warmer, ſince the Matter of the Tumour contains leſs volatile Parts.

But as Medicines that promote Suppuration, are not only endowed with Parts that are warm and volatile, but alſo emollient and mucilaginous; we are likewiſe to conſider, why thoſe Qualities contribute to the promoting of Suppuration. Since then mucilaginous and emollient Medicines, tho' they have volatile Parts in them, yet, conſidered only as mucilaginous, they conſiſt of Parts clammy and tenacious, and unapt to inſinuate themſelves into the Pores of the Skin, and conſequently, can have no direct Ef- *Why Medicines mucilaginous and emollient promote Suppuration.*

fect upon the peccant Humour; yet as they obſtruct and ſtop the Pores of the Skin, they retain and keep in thoſe warm Effluviums, which might paſs off by Perſpiration, and ſo ſerve as a reverbatory Heat, in concocting and digeſting the Matter of the Tumour.

Diſcutients ſometimes promote Suppuration.

Before we proceed, it may not be amiſs here to take notice, that Diſcutients themſelves, if the Matter is too tenacious and viſcous to be diſcuſſed, promote Suppuration, ſince they conſiſt of Parts which are warm and emit volatile Effluvia.

Tumours when to be opened.

When the Matter of the Tumour is ſuppurated and turned into Pus, it is neceſſary it ſhould be diſcharged, leſt the Parts about it ſhould be corrupted, or corroded, as the Veins, Arteries, Nerves or Tendons: If it be near a Bone, or the Sutures of the Skull, it muſt be opened before the Matter comes to a perfect Suppuration, leſt the Parts beneath it ſhould be damnify'd; as alſo, in Abſceſſes in *Ano*, or near the *Fauces*; in the former the *Rectum* being in danger of Putrefaction, and for fear the latter ſhould ſtrangle the Patient. Likewiſe in Abſceſſes of the Breaſt or Belly, we are not to wait for Suppuration, leſt the Tumour ſhould break inward; yet when Tumours are opened too ſoon, they commonly are crude, hard to digeſt, and longer in cure.

Tumours to be opened.

Tumours are to be opened two ways, *viz.* either by Inciſion, or Cauſtick.

By Cauſtick.

Cauſticks are chiefly of Uſe in large Tumours, where the Quantity of Matter is great, and the Abſceſs is to be kept long open, or where Bandage cannot be conveniently applied to keep in Tents. As to the Place where they are to be applied, it is to be obſerved, that it muſt be in the moſt declining Part, for the better diſcharge of the Humour.

Cauſticks

Cauſticks are of different kinds, as *Lixivium Saponis* boiled to a ſolid Conſiſtence, adding in the boiling to ℥vj. of the *Lixivium*, about ℥j. *Vitr. Roman*, and *Op.* ℈j. Or a Cauſtick may be made of a Mixture of *Lixivium Saponis* and *Calx viv.* or *Lapis Infernalis*, uſing due Caution to prevent the Cauſtick from ſpreading farther than we deſign, *viz.* by defending the Parts about with convenient Plaiſters, to keep the Cauſtick within Bounds. When the Eſcar is formed, it may be ſeparated, fomenting the Part with Milk or Wine, and dreſſing it with a common digeſtive, and an Anodyne Cataplaſm over all. Or the digeſtive *Baſil*, with *Ol. Olivar.* may be ſufficient.

If a Tumour be opened by Inciſion, the Apertion, ought to be made where the Matter is chiefly contained, drawing the Knife towards the moſt declining Part. The Inciſion is to be made according to the Rectitude of the Fibres, except in the Groin or Armpit where it is to be made obliquely. In making Inciſion care muſt be taken to avoid wounding the Veins or Arteries, Nerves or Tendons. If upon Apertion by Inciſion a Flux of Blood inſue, it is to be reſtrained by proper Medicines, as *pulv. Galen.* or *Ol. Terebinth.* hot, which will likewiſe promote Digeſtion. *Or Inciſion.*

If the Patient be weak and timorous, or the Wound large, fainting ſometimes enſues, therefore care muſt be taken not to diſcharge too much Matter at once; but if that Caution, nor a convenient Poſture, by laying the Patient on his back, will relieve it, then proper Cordials are to be adminiſtred to ſupport the Patient's Spirits. The Spirits are alſo to be refreſhed with *Epithemata*, made of ſome proper cordial Waters, or ſuch Ingredients as may cheriſh and refreſh the Parts. *Fainting how relieved.*

If after the Apertion, and Diſcharge, there remains any conſiderable Hardneſs, either for want of *Hardneſs how relieved.*

Suppuration, or occaſioned by Pain and Inflammation, the next dreſſing it will be convenient to make uſe of Fomentations made of emollient Diſcutients; as *Summit. malv. biſmalv. Flor. Cham. ſummit. Abſynth.* which will gently cheriſh the Parts; by their emollient Qualities relieve the Pain, and by diſcuſſing and digeſting the cruder Matter, relax the Tumour.

After Inciſion, what Dreſſings are proper.

When the Tumour is thus opened by Inciſion, and fomented, it will be requiſite to dreſs the Part with Digeſtives, ſuch as the following: ℞ *Terebinth.* ʒj. *Far. Tritici* ʒij. *Croci. pulv.* ℈j. *Vitel. ov. q. ſ. M.* If the Lips of the Ulcer be painful, it may be dreſs'd with the Yolk of a new-laid Egg, with *Ol. Roſar.* the following Cerot being apply'd: ℞ *Mucil. Sem. lini, fœnug. althææ extract. in decoct. hord.* ʒij. *Ol. lil. æſyp. amyg. dulc.* āa. ʒj. ß. *Terebinth* ʒj. *ceræ* ʒvj. *aut q. ſ. f. Cerot.* or *Emp. Diachalcit.* with *Ung. de Althææ,* in form of a Cerot, may be made uſe of, with moderate Compreſs and Bandage. By theſe lenient Applications, the Part will be mollified and eaſed of Pain, the Skin being ſoftened and relaxed, and by convenient Bandage, the Matter contained within the Lips of the Inciſion, gently preſs'd out as diſcutient Digeſtives diſpoſe it.

How Digeſtives produce their Effects, I ſhall hereafter explain, when I come to ſpeak of Ulcers in general; but ſince we have here taken notice of the Opening of Tumours by Cauſtick, it will not be amiſs to ſay ſomething in general of their manner of working and forming an Eſchar.

How Cauſticks form an Eſchar.

Since then Cauſtick Medicines, conſiſt not only of Parts very ſubtile, ſharp, and conſequently corroding, but alſo of Parts tenacious and viſcous, we ſhall not only conſider how thoſe corroſive Parts produce their Effects; but alſo, how the lixivious or viſcous Parts aſſiſt them in their Corroſion; and ſince they are applyed only to the Superficies of the *Cuticula,* we are likewiſe to conſider,

ſider, that as all Bodies, and each Part are ſubject naturally to a conſtant Tranſpiration of a ſerous Humour, which paſſes through the Pores of the *Cuticula*; ſo the *Cutis* it ſelf is furniſhed with Glands innumerable, deſign'd for the Separation of this Humour, and proper excretory Veſſels to convey it to the Pores of the *Cuticula*. Now ſince this Humour is conſtantly by the Courſe of Nature, tranſuding through the *Cuticula*, upon the Application of a Cauſtick, the viſcous tenacious Parts ſtop up and obſtruct the Pores of the *Cuticula*, ſo that the Serum which uſually paſſed out through them, can be no longer diſcharged, but is heaped up and collected betwixt the *Cuticula* and *Cutis*: But though the Pores are ſo ſtopped as to prevent the Exit of the Serum, yet the very ſubtile and penetrating Particles of the Cauſtick, may inſinuate themſelves and mix with that Serum which ought to have been diſcharged; and ſince that Serum is of ſo ſharp a ſaline Nature, as when it is by accident retained too long, to fret and corrode the Parts about it, when it is ſtrongly impregnated with the corroſive Particles of the Cauſtick, it acquires ſo great an Acrimony as to corrode and deſtroy the Parts with much greater Violence, the ſubtle and ſharp Particles of the Cauſtick inſinuating themſelves betwixt the Parts of Matter that compoſe the Veſſels, and by that means diſſolving their Texture and Continuity. Nor does this Cauſtick Quality ceaſe or loſe its Force, till the Matter corroded is ſufficient in Quantity to intangle all its Parts, ſo that they being ſeparated and diſperſed wholly in their own Ruines, are able to exert themſelves no further, but lie buried and ſtiffled in the Eſchar they have formed.

How the Separation of the Eſchar is made.

When the Eſchar is formed and dreſſed with Digeſtives, though we conſider not here the Uſe of Digeſtives in General, yet it will not be amiſs to enquire how they promote the Separation of that Eſchar. Since then that Part of the Eſchar which is next to the ſound Parts, is not ſo dry and cruſty as its outſide, but is conſtantly moiſtened with that natural Humour which flows from the ſound Part; and ſince that Humour there ſtagnates, and is out of the Way of Circulation, it will have the ſame Tendency to Suppuration as the Matter which firſt occaſion'd the Tumour, and will have the ſame Aſſiſtance from Nature and external warm Applications to aſſiſt it, beſides being in ſome meaſure impregnated with corroſive Effluvia from the Eſchar, it will the ſooner be diſpoſed to Rottenneſs and Corruption; and when it is ſufficiently ſuppurated, that ſuppurated Matter interpoſing betwixt the ſound Parts and the Eſchar, muſt needs ſeparate and make it looſe and caſt off.

Now when the Eſchar is ſeparated, and the Part ſufficiently digeſted with *Baſilic.* dip'd in *Ol. Lil. Terebinth.* or any other proper Digeſtive, it will be convenient to make uſe of Detergents, ſuch as *Mundif. ex Apio*, or *Paracelſ.* the latter of which is thus made: ℞ *Terebinth. clar. mellis deſpumat.* ãa. ℔ß. *vitel. ov.* №. iij. *coq. ad conſiſt. unguent.* If the Matter of the Ulcer hath not ſufficient free Diſcharge, it muſt be helped by Compreſs and Bandage; and if the forementioned Detergents are not ſtrong enough, they may be quickened with *Merc. præcip. rubr.* or *alum. uſt.*

If Detergents are not too ſtrong, they will alſo ſerve to incarn; or the following may be made uſe of: ℞ *Terebinth. Venet.* ℥iiij. *Pulv. ariſtolochi. rotund. Ireos. Thuris* ãa. ʒiij. *Maſtich. Myrrh. Aloes* ãa. ℥ß. *Cadmiæ* ʒvj. *Mel Roſar. q. ſ. f. Unguent.*

If

If the Fleſh grow looſe and ſpungy, it may be gently touched with the Vitriol Stone, or Alum, which will make the Fleſh firm, and likewiſe diſpoſe it the better to cicatrize.

When the Tumour is incarned, it may be cicatrized with *Unguent. Rubr. deſiccativ.* or *calcis, &c.*

Thus much of Tumours in General made by Fluxion. As for Tumours made by Congeſtion, the Cauſe and Symptoms being of a different Nature, ſo the Intentions of Cure alſo vary.

And firſt, Bleeding is not ſo abſolutely neceſſary, the Conſtitution being colder and without a Fever; and in weak Bodies it is altogether to be avoided, leſt it incline the Patient to a Dropſie. However, Purging ought to be ſtronger to diſcharge that groſs Humour which occaſions the Tumour, as *Agarick, Hermodact. Scammon. Jalop, Colothynth. Pil. coch. ex duobus, Elect. è Suc. Roſarum, &c.* Derivation by Iſſues or Setons are alſo uſeful, Diſcutients are alſo ſerviceable, but they muſt be of the hotteſt kind. They ſeldom ſuppurate, except they have Blood mixt with them; but when they have, they are to be treated all one as Tumours made by Fluxion.

To what hath been ſaid of Tumours, it only remains that we ſhould add, what Regimen is to be obſerved in Diet, which is to be varied according to the Difference of Conſtitutions, and the different Natures of Tumours. *What Regimen in Diet is to be obſerved.*

In Tumours made by Fluxion, if the Patient be ſtrong and full of Humours, and the Inflammation conſiderable, a ſlender cooling Diet is convenient; but if the Patient be weak and thin, ſuch Diet as will cheriſh and ſupport Nature, and of eaſie Digeſtion, are proper; but whatever is of hard Digeſtion, which may heap up Crudities, muſt be avoided. If a Fever attend the Tumour, it muſt be treated accordingly. As for Drink, the ſame

Rules are to be obſerved as in Eating: For if the Patient be ſtrong, and the Symptoms violent, Ptiſans or ſmall Liquors are convenient; but if the Perſon be weak, it will be requiſite to make uſe of ſuch Liquors as may ſupport his Spirits and preſerve the natural Heat. And even in ſtrong Bodies it is to be obſerved, that if, except Neceſſity requires, the accuſtomed Habits be altered at once, and the common Courſe of Nature, it frequently happens to be prejudicial and occaſion Humours to be heaped up of another kind, as prejudicial as thoſe we would correct. However, tho' the ſame Diet and Method of living be obſerved, yet it ought to be more ſparingly. The Air ought to be temper'd ſo as neither to be too cold to chill, nor too warm to inflame the Humours. As for Exerciſe, if the Tumour be large, it will forbid that it ſelf, but if ſmall, the Conſequences will not be material. Sleep ought to be moderate, and forbidden in the Day, perverting the regular Courſe of Nature, and making the Patient reſtleſs at Night.

In Tumours made by Congeſtion, the Diet ought to be moderate in Quantity, but ſuch as is healing, ſtrenghthening, and attenuating, and eaſie of Digeſtion. Their Drink likewiſe ought to be ſuch as will ſtrengthen their Spirits and Blood: As Ale or Wine, or if the Humours be thin, their Drink may be made of medicinal Ingredients, as *Sarſaparil. China, Lign. Guai. Leſtiſcin. &c.* The Air ought to be warm and attenuating, and their Exerciſe and Sleep moderate.

CHAP.

CHAP II.

Of an Inflammation or Phlegmon.

AN Inflammation or Phlegmon, is a hot Tumour of a red Colour, attended with Tenſion, Pulſation, Pain, and circumſcribed Hardneſs, and a Fever, if it be very large. The Reaſon of its Symptoms may eaſily be accounted for, by conſidering its Cauſe. *Deſcription of a Phlegmon.*

Phlegmons differ, either according to their Place, as whether internal or external; or according to the Part affected; from which they are called by different Names. If an Inflammation happens in the Lungs, 'tis called a *Peripnumonia*; in the Pleura, *Pleuritis*; in the Throat, *Angina*; externally near the Throat, *Angina Notha*; in the Eyes, *Opthalmia*; in the Glands about the Ears, *Parotis*, &c. They differ likewiſe according to the difference of the Matter that forms them, being either ſimple or compound, when complicated with ſome other Diſtemper, from which they take their Denomination; and thus a *Phlegmon* may be either ſaid to be *Eriſypelatodes*, *Phlegmatodes*, *Oedematodes*, or *Schirrhodes*. *Differences.*

As to its Cauſe, we are to conſider the Nature of the Antecedent, as well as the material and conjunct Cauſe; as alſo we are to obſerve the manner how that Matter occaſions the Tumour, which is the formal Cauſe. *The Cauſe.*

And firſt, as to the antecedent Cauſe; ſince the Blood, as well as the reſt of the Maſs of Humours, as long as it retains its natural Craſis, and is free from a Mixture of heterogeneous Parts, is capable of circulating through all the moſt minute capillary Veſſels, conſequently no Diſeaſe can happen:

happen: But if by Accident, the natural Crasis and Disposition of the Humours happen to be altered and depraved, those depraved Humours being gradually heaped up to a Quantity, they at last cause such an Alteration, as to produce some evident Effect.

Gross phlegmatick Humours.

Now since in a Phlegmon it is evident that the natural and free Circulation is perverted, it must happen, because the Humours are too gross to pass through the small capillary Vessels; how the Humours for want of free Circulation, may occasion Tumour, Tension, Pulsation, and the rest of the Symptoms of Tumour, I have already shewed in the foregoing Chapter of *Tumours in General:* It will be sufficient therefore in this place to take notice, that as the Blood, or other Humours, are too gross to circulate, that the antecedent Cause must be Phlegm, the Blood or its Serum, or both, being by a mixture of it, rendered too thick, and consequently apt to obstruct the Vessels; and since the conjunct Cause, which is the Matter of the Tumour, thus shews us the Nature of the Antecedent, it may not be amiss to consider how the Blood and its Serum come to be too gross and thick. And that may happen either by an internal or by an external Cause; by an internal Cause the Blood and its Serum may be rendered too gross, when by a Crapula, the natural Digestion is depraved, or when by the Fault of the Stomach and Indigestion, the Chyle is not sufficiently concocted and purged of its Phlegm; and by that means Crudities are heaped up in the Mass of Blood, and make the Serum of the Blood gross and thick; and that Crudities thus heaped up in the Mass of Blood, may, and do occasion Tumours, is evident, since those Bodies that are most subject to them, are not only *plethorick*, but likewise full of gross Humours and *Cacochymia*; and as those Bodies which are plethorick and phlegmatick are generally more subject to them than

How the Blood and Serum come to be too gross.

than others, ſo accordingly as they are more or leſs ſanguine and hot, they are more or leſs attended with Heat and Inflammation.

But the Blood and Serum may not only be render'd too groſs and thick by Indigeſtion, but alſo by external Cauſes; as by violent Cold; for though the Blood and Serum be well digeſted and of their natural Craſis, yet by the Violence of external Cold, they may be ſo chilled and coagulated as to be render'd unfit for Circulation, and that the Blood and Serum are too groſs and thick to circulate freely, is evident, not only from the conjunct Cauſe, which is a Specimen of the Antecedent, but is alſo apparent in the Blood drawn from ſuch Bodies, which is manifeſtly too thick, and the Serum viſcid and ſizy.

From what hath been ſaid, it appears that a Phlegmon may be occaſioned by the Blood and Serum, being took thick, as is evident in pleuritick Blood, where the Blood and Serum are both in Fault; yet in ſome Phlegmons, though both be faulty, they are only occaſioned by the Fault of the Serum, the Tumour being made in glandulous Parts, as *Angina*, *Parotis*; but thoſe which are formed in fleſhy Parts, have a Mixture of both concern'd; for though the Serum it ſelf were only the Occaſion, yet if Serum occaſion an Obſtruction, and hinder the free Circulation, the Blood being ſtopped with it will alſo make up part of the conjunct Cauſe of the Tumour, though being of a good Temperament, it perhaps might be no part of the antecedent Cauſe.

The Matter of Tumours complicate.

But in Phlegmons, the Blood and Serum are not only too thick, but ſometimes this groſſer Serum is endowed alſo with other Qualities, as Acrimony, or tinctured with cholerick Parts, or accompanied with a thin ſharp Serum; but of thoſe more when we come to the particular Caſes. It is ſufficient

ficient here that we have ſhewed how a Phlegmon may be produced by the Groſneſs of the Blood, or Serum, or both; yet in plethorick Bodies, where the Veſſels are much extended, and the Blood hot and in a great Ferment, it may perhaps force it ſelf ſo plentifully upon the tender Veſſels, as to occaſion a Rupture of them, and conſequently an Extravaſation and Tumour, as I have ſhewn in the foregoing Chapter of Tumours in general.

Thus much of the Cauſes of Phlegmons. As to their Symptoms, of Tenſion, Pulſation, and Pain, they have been already accounted for in the Chapter of Tumours in general: And as for their circumſcribed Hardneſs, that muſt proceed either from the violent Extenſion of the Veſſels, whilſt full, or the Groſſneſs of the Matter contained in them after the Tumour is open, Vent being given for the thin part to run off, the groſſer being left behind.

The Diagnoſticks. Having ſaid what may be requiſite as to the Cauſes of Phlegmons, eſpecially thoſe which are external, which are the Subject of this Chapter, we ſhall proceed to their Signs or Diagnoſticks, which are great Pain and Heat, an inflamed red Colour, with Swelling, Hardneſs, Pulſation, and Tenſion. When the Tumour is at its State and ſuppurates, it riſes into a Cone, and the Matter may be perceiv d to fluctuate under the Fingers, the Skin being thin and of the Colour of the Matter under it; and then the Symptoms abate.

The Prognoſticks. The Prognoſticks are good when the Tumour diminiſhes upon the Uſe of Repellents or Diſcutients, or when the Matter tends to Suppuration, and ripens into a well digeſted Pus. If the Tumour ſink, and the Accidents and a Fever continue, it is an ill Sign, for either a Gangrene or ſome other ill Symptoms ſucceed: If the Tumour were upon the Criſis of a Fever, a Relapſe is occaſioned, which is often fatal. It is an ill Sign alſo when the Matter

ter grows hard, and the Pain ceaſes, there being Danger of a Schirrus. Theſe Tumours are more difficult of Cure in fat People than lean, and about tendinous Parts than in fleſhy ones, and have more violent Symptoms. After large Tumours purging is neceſſary, and ſuch Medicines as may regulate the Craſis of the Blood, leſt Crudities and Weakneſs lead the Patient into any other Diſeaſe.

In the Cure, there are four general Intentions: The firſt is, to obſerve a regular Diet, and a due Uſe of the reſt of the ſix Non-naturals. The Second is to prevent the Influx of Humours. The Third is, to evacuate the Humours already collected in the Part. The Fourth is, to remove and prevent ill Accidents. *Intentions of Cure.*

And firſt, The Diet ought to be moderate, leſt the Humours being heated, or the Veſſels filled too full, ſhould occaſion them to flow too much upon the Part affected; yet regard is to be had to the Patient's Habit of Body, and the Cuſtom of Living; for as the altering of a cuſtomary Way of Living is prejudicial to a Body in perfect Health, much leſs is it convenient to alter the Courſe of Nature when it is already perverted. Drinking is alſo to be regular, yet ſuitable to the cuſtomary Liquors, which ought not to vary in Quality, but only in Quantity; for if the Blood wants its natural Degree of Fermentation and Heat, it will, by being depreſſed, grow dull and Phlegmatick; whereas on the contrary, if it be exalted above its natural pitch, it will not only increaſe Inflammation, but caſt off and ſeparate a great deal of Phlegm, which might otherwiſe retain its mixture with the Blood, and continue inſeparate from the Maſs. As for the reſt of the ſix Non-naturals, they are to be regulated as obſerved in the Chapter of Tumours in general. *The firſt Intention.*

The

The ſecond Intention. The ſecond Intention is, to prevent the Influx of Humours, which is to be done, by emptying the Veſſels, and evacuating the *Cacochymia*. The firſt is done by Bleeding, which being in Quantity according to the Strength of the Patient, makes Revulſion by emptying the Veſſels, and eaſes Pain by abating the Heat of the Blood. The latter, *viz.* diſcharging the *Cacochymia*, is done by purging Medicines of lenient Qualities, which make Evacuation without heating, ſuch as *Elect. Lenitiv. Diacatholicon, Caſſia, Manna, Tamarind, Crem. Tartar.* Infuſions of *Senna, Rhubarb*, &c. But beſides bleeding and purging, it will be requiſite to give ſuch Draughts as are of an anodyne Quality to compoſe the irregular Motion of the Spirits, and ſo allay the Heat of the Blood; as Emulſions of the greater and leſſer cold Seeds, with *Decoct. Hordei*, and *Syr. de Mecon. Papav. Rhœad. Paraly. ſ.* &c. in proper Vehicles.

The third Intention. The third Intention is to diſcharge the Humours already collected in the Part, and which is the immediate conjunct Cauſe of the Tumour. How Revulſion, Derivation, Repellents, Diſcutients, *&c.* contribute to this Intention hath been ſufficiently explained in the former Chapter of Tumours in general, I ſhall here only add ſome proper Forms in each particular Intention from Mr. *Wiſeman*.

And firſt as in the Beginning it is neceſſary to make uſe of Repellents, except in Tumours which are either malignant or critical, any of the following Forms may be convenient. ℞ *Ceræ alb.* ℥iv. *Ol. Roſat. omphac.* ℔j. *novies laventur aq. font. deinde aceto ſubigentur.* Or, ℞ *Emp. Diachalc.* ℥iij. *Bol. Armen.* ʒiij. *Bac. Myrt.* ʒij. *aceti vini coch.* iv. *Ol. Myrt. q. ſ. f. Cerot.* Or the following; ℞ *Farin. hord.* ℥vj. *Cort. granator. pulv.* ℥ij. *Pulv. Baluſt.* ℥ß. *Suc. Sedi. Maj.* ℥iij. *Vini rubr. q. ſ. coq. ad conſiſtent.*

ſtent Cataplaſm. & in fine Coctionis add. Ol. Myrt. ʒij. but they muſt be renewed every Day, otherwiſe they will grow too dry and only heat the Part.

When Tumour and Inflammation increaſe with Hardneſs, it will be requiſite to add to Repellents, ſuch Medicines as may ſoften and aſſiſt Repellents, by diſſolving the Humours; in which caſe the following may be convenient: ℞ *Fol. malv. parietar. plantag.* āa. *M. j. farin. hord. & fabar* āa. ʒj ß. *Flor. Roſ. rubr. pulv.* ʒß. *coq. in aq. fontan. f. Cataplaſm addendo in fine Ov. integr.* N°. ij. *Ol. Cham. roſar. q. ſ.*

If the Tumour grow ſo hard that Repellents are to be deſiſted from, emollient Diſcutients are to be made uſe of, as ℞ *Rad. & fol. Althææ* āa. *M. j. Sem. lini & fœnug.* āa. ʒvj. *Flor. cham. melil. pulv.* āa. ʒij. *farin. hord. & tritic.* āa. ʒvj. *f. Cataplaſm. addend. mellis* ʒij. *Ol. Sambucin. axung. anſeris* āa. ʒj. If the Tumour decline, ℞ *Fol. Parietar M. ij. Sem. lini fœnug.* āa. ʒß. *ſummit Abſinth. anethi flor. Cham. ſumbuci pulv.* āa. ʒiij. *Flor. roſ. rubr.* ʒß. *Farin. lentium & fabar.* āa. ʒiv. *coq. in Vino & f. Cataplaſm. addend. Ol. Lumbric. anethi* āa. ʒij. *Mel. com.* ʒj. ß. or ℞. *Emp. de Mucilag. oxycroc.* āa. ʒij. *diachyl. iterat.* ʒj. *Ol. Aneth. q ſ. Of. Cerot.*

The fourth Intention is to remove Accidents, of which Pain is the chief, for it not only exhauſts the Spirits and deſtroys the Temper of the Part, but alſo increaſes Fluxion. To remove this Symptom, the following Catapiaſm may be proper. ℞ *Fol. Viſc. pomor. cum fructibus,* āa. *M. j. fol. hyoſcyam M. ij. fol. papav. M. j. ſub cineribus coquantur, addendo tandem mic. panis alb. in lacte tepido macerat.* ℔ß. *vitel. ovor.* N°. ij. *Croci* ʒj. *Ol. Cham. & Roſar.* āa. *q. ſ. f. Cataplaſm.* *The Fourth Intention.*

If a Fever attend the Tumour, it is relieved by Bleeding, and relieving thoſe Symptoms which pro-

promote and encourage the Diſorder of the Spirits, and the violent Ferment of the Blood, and ceaſeth when the Tumour terminates, whether it be in Diſcuſſion or Suppuration.

As for the manner of Suppuration, and the Qualities of Medicines that promote it, we have ſufficiently explained them in the Chapter of Tumours in General, being ſuch as encourage the natural Heat of the Part and the inherent Qualities of the Humour which forms the Tumour, by their volatile Effluvia, and cauſing a reverberatory Heat, by ſtopping the Pores of the Skin, as all mucilaginous and viſcous gummy Parts do. To promote Suppuration, I ſhall tranſcribe the following Forms from Mr. *Wiſeman*. ℞ *Rad. Althæ. & lil. alb.* aa. ℥iv. *branc. Urſin. M. j. coq. in Brodio aut lacte ad mollitiem, deinde add. medul. panis alb.* ℔ſs. *ſem. lini pulv.* ℥ij. *axung. porcin. gallinac.* ℥ij. *Vitel. ovor.* N°. ij. *Croci* ℥ij. *M. f. Cataplaſma.* Or ℞ *rad. lil.* ℥iij. *cepar. coct. ſub cineribus* ℥ij. *Summit. Althææ M. ij. cancr. ping. toſt.* N°. vj. *coq. & contuſis add. fann. trit.* ℥ij. *pulv. ſem. lini* ℥j. *axung. porcin* ℥ij. *Unguent. baſil. ſimp.* ℥j. *Ol. lil. q. ſ. cum vitel. ovor. & Croco f. Catapl.*

When the Tumour ſuppurates, the Symptoms decline, except it lie deep, and then they continue till the Matter is diſcharged. When Tumours are opened too ſoon, they are crude and long a healing; and on the contrary, if the digeſted Matter is too long retained, it will be apt to corrupt the Parts about it, and if deep, may occaſion Sinuoſity. How a Tumour is to be treated after Apertion, hath been ſhewn in the Chapter of Tumours in general, and will be further accounted for in the Chapter of Ulcers in general.

CHAP.

CHAP. III.

Of an Eryſipelas.

AN *Eryſipelas* is a hot Tumour which affects the Superficies of the Skin, with a ſhining pale red, or citron Colour, without Pulſation or circumſcribed Tumour, ſpreading from one place to another. It commonly begins with ſome little Rigor, and is continued with a Fever. *Deſcription.*

As the Humour more or leſs degenerates from its natural State, ſo do theſe Tumours differ; as alſo as the Humour is complicated and mixed with a Humour of another kind; from which Complication they acquire additional Epithites, as Eryſipelas Oedematoides, Phlegmonoides, Shcirrhodes, *&c.* A ſimple Eryſipelas only affects the Skin of the Face, Head, Breaſt, Back, Legs, Thighs, or Arms; but when it is compound, and mixed with other Humours, the Fleſh and other adjacent Parts are affected with it. As the Humour is leſs or more virulent, ſo the Part is of a red or other Colour. *Differences.*

As to the Cauſe of a ſimple Eryſipelas, ſince it only affects the Skin, we may conſider, firſt the Nature of the Part, and then the Nature of the Humour. And firſt, the Skin is not only furniſhed with a great Number of ſmall capillary Veſſels interwoven betwixt its proper Fibres, but alſo a vaſt Number of ſmall Glands for the Separation of that Serum which goes off by inſenſible or ſenſible Tranſpiration; as alſo proper excretory Veſſels to convey it to the Pores of the Cuticle. The Cutis is likewiſe furniſhed with an infinite Number *The Cauſe of an Eryſipelas from an internal Cauſe.*

of ſenſible Fibres, which make it capable of diſtinguiſhing by Touch, very ſenſibly, whatever Bodies are contiguous to the Cuticula; but when they have an immediate Contact of any thing, without the Interpoſition of the Cuticle, they are of much more exquiſite Senſe. Having thus conſidered the Structure of the Part, it muſt follow, that whatever produces a Diſeaſe in this Part, it muſt ſhew its Effects either in the Blood-Veſſels in theſe Glands, or the excretory Veſſels, or it muſt lie betwixt the Cutis and Cuticula for want of a Diſcharge through the Pores of the Cuticula, and as it hath different Qualities, variouſly affect the fibrous papillæ that form the ſenſory of feeling; ſince then in theſe Parts, as well as in all others, the Humours will have their free Paſſage, and diſcharge, as long as they retain their natural Degree of Fluidity; for though, the Blood or Serum ſhould be either too ſharp or cholerick, yet I ſay, if it retains its juſt degree of Fluidity, it would ſtill maintain its free Paſſage without producing any violent Symptoms; as it does in ſcorbutick Bodies where the Serum is very ſharp and acrimonious; yet ſince it is thin and fluid, it hath no ill Effects in the Skin, though in other Parts it ſhews its acrid Qualities, as in Opthalmia's, where the Sharpneſs of this thin Serum is offenſive to the Eyes; or elſe it ſhews it ſelf in ſpitting even to the Degree of a Salivation; and in the Jaundice, though the Blood and Serum are ſtrongly impregnated with Choler, yet being thin enough to circulate along with the Blood, it produces no other Effects in the Skin than to ſtain the Parts with its Tincture.

From what hath been ſaid, it appears, that whatever produces a Diſeaſe in the Skin, eſpecially a Tumour, it muſt be becauſe it is too groſs and thick to circulate through the Veſſels; and

ſince

ſince the ſanguiferous Veſſels contain both Blood and Serum, if the Effect be produced in them, it may be either the Fault of the Blood or Serum, or both; but if it be produced in the excretory Veſſels, through which it is to be diſcharged, it muſt be the Fault of the Serum, ſince the Blood cannot come there without a Rupture of the Veſſels and an Extravaſation: That Blood is concerned in this Tumour, is evident, ſince for want of its free Paſſage, the Blood-Veſſels are ſo extended as to make the Skin appear more ruddy than naturally, and that the Serum is likewiſe faulty is as plain, ſince for want of its being thin enough to paſs through the excretory Pores, it ſtains the Superficies of the Skin of a yellowiſh Colour, as it happens to be more or leſs virulent; and often for want of its Excluſion ſeparates the Cuticula and raiſes Bliſters.

Now as the Retention of the morbifick Matter in the Skin is occaſioned by its being too groſs to paſs through the Veſſels; ſo when it is ſo retained, it produces different Effects according to its other different Qualities. If the Blood be only impregnated with cholerick Humours which heat and inflame it, and render the Serum only ſharp and acrid; the Skin then appears only of a red Colour, the Veſſels diſtended with it, only diſtinguiſhing themſelves; but if the Serum of the Blood be ſo much impregnated with cholerick Parts, as to give it a Tincture, it then ſtains the excretory Glands, and likewiſe the Cuticula, ſo that the Cuticula appears to be of a yellowiſh Colour; but when both the Blood-Veſſels are diſtended, and the Serum is moderately ſtained, the Yellowneſs of the Cuticle does not altogether over-power and hide the diſtended Blood-Veſſels, the Skin appearing of a yellowiſh Colour mixed with red.

The Cauſe of an Eryſipelas whence.

From what hath been ſaid, it appears, that an Eryſipelas proceeds from hot cholerick Blood and Serum, being too groſs to paſs through the Veſſels freely, as the humours ought to do naturally; now ſince the Skin is plentifully furniſhed with nervous *papillæ*, when this ſharp pungent Serum is retained by its Groſsneſs betwixt the Cutis and Cuticula, it pricks and vellicates the nervous *papillæ* ſo much, as not only to cauſe a ſenſible prickling Pain, but alſo a violent Senſation of Heat.

Having hitherto given a rational Account of the formal and conjunct Cauſe of this Diſeaſe, from thence it is eaſily known what was the Antecedent; ſince this hot cholerick Blood, complicated with Phlegm, muſt needs be in the Maſs of Blood before it could be thrown upon the affected Part. Now when the morbifick Matter happens to lodge it ſelf in any Part, as the Blood hath more or leſs of the ſame kind of Humour remaining in it, ſo is the Diſeaſe attended with a more or leſs violent Fever. If a Fever preceded the Eryſipelas, then is it critical and Symptomatick; but if an Eryſipelas precedes the Fever, then the Fever is only ſymptomatical, and ceaſes with the Eryſipelas.

Of an Eryſipelas from an external Cauſe.

Thus much of an Eryſipelas proceeding from an internal Cauſe. But ſometimes it proceeds partly from an external Cauſe, as Contuſion, Fracture, the Heat of the Sun, Fire, or ſharp Medicines; yet theſe external Cauſes contribute not to the Diſtemper without a prediſpoſed cholerick Humour in the Maſs of Blood; but when there is a prediſpoſed Humour in the Blood; when the Blood by any Accident is put into a more than ordinary Heat, this prediſpoſed Humour is by that means ſeparated and diſcharged upon ſome Part or other where it exerts its Qualities; and by occaſioning a violent Senſation of Heat and Pain, diſorders the Spirits, and puts the Blood into a more than ordinary

dinary Ferment, which cauſes a greater Flux of Humours to the Part, and conſequently greater Pain, till at laſt the Blood being violently heated, produces a ſymptomatick Fever.

The Diagnoſticks of an Eryſipelas, are a ſhining yellowiſh Colour, mixed with red here and there, a violent Heat with a pricking Pain bliſtering the Skin, and moving from one Place to another. *The Diagnoſticks.*

As to the Prognoſticks, a ſimple Eryſipelas hath very moderate Symptoms, the Fever decreaſing as the Eryſipelas increaſes, the Maſs of Blood being ſo much the more free of the diſtemper'd Humour. If the Humour be drove back or retracted into the Maſs of Blood, it cauſes violent Symptoms, and often Death. Suppuration in an Eryſipelas is not good, it being ſucceeded by Corruption. An Eryſipelas upon a Bone is very ill, eſpecially if a Delirium happen upon it, any Diſtemper affecting the Brain, being of ill Conſequence. The beſt Termination for an Eryſipelas is by Tranſpiration, ſince it ſhews that the Humour is corrected and rendered thin enough again, to paſs through the Veſſels deſigned for the Separation and Excluſion of it. *The Prognoſticks.*

In the Cure of an Eryſipelas, we are chiefly to conſider the Habit of the Body, which ſince it abounds with cholerick Humours, the Cure is chiefly to be effected by Diet and internal Medicines. *The Cure.*

The Diet ought to be ſuch as may moderate and dilute the cholerick Humours, both to temperate the violent Heat of the Blood, and to diſpoſe the Humours more eaſily to go off by Medicines; as Grewel, Panadoes, Chicken-broth with cooling Herbs. Their Drink, Ptiſans, Emulſions and cooling Juleps; as *Aq. Boragin. Endiv. acetoſ. Lactuc. portulac. &c.* with *ſyr. è Succo Citri, Limon. granator. Rhub. Idæi, violar. &c.* avoiding all hot Liquours that may heat and inflame the Blood.

Blood. Reſt is to be promoted by gentle Anodynes.

When Bleeding is moſt requiſite.

If an Eryſipelas happen upon Wounds, or affects the Head or Throat, Bleeding is convenient; when the Head is affected, leſt it affect the Brain likewiſe, and cauſe a *Phrenites*; and when it affects the Throat, leſt it cauſe an *Angina*, and endanger Suffocation. But if it happen only in the Skin, where no noble Part is concerned, Bleeding is to be avoided, leſt it make a Retraction of the Humour into the Maſs of Blood, and occaſion ill Symptoms: In ſuch Caſes the Humours are to be diſcharged by purging Medicines, which are lenient and evacuate without putting the Humours into a Ferment and heating the Blood; as *Caſſia, Manna, Rhubarb, Tamarind, Crem. Tart. &c.* in Whey, or a Decoction of the opening Roots, with *Syr. è Cichor. cum Rheo, Syr. Roſar. ſolut.* Or *Elect. Lenitiv. Diacatholicon è ſuc. Roſar.* When purging is not convenient, it is proper to keep the Body open by Clyſters.

If an Eryſipelas proceed from external Cauſes, it may be convenient to uſe Medicines of a cooling Nature, yet not too aſtringent, leſt they hinder Tranſpiration, and ſo by retaining the Humour, render it ſharp and corroding, or incline it to the Apoſtemation; they ought alſo, beſides their refrigerating, to have lenient Qualities to allay the Pain and Inflammation: Simple Medicines proper in ſuch Caſes are, *Umbelic. Veneris, polygonum, plantag. trifol. paluſtre, portulac, pſyllium, ſempervivum, ſolanum, &c.* Compounds are, *Ceratum Galeni, Unguent. Nutrit.* with a third part of *Populeon*: Or, ℞ *Ceruſs.* ℥viij. *Lytharg. Auri* ℥iv. *Mucilag. Sem. pſyll. cydon extract. in. aq. Solani. Suc. Solani umbelic. Veneris* āa. ℥iij. *acet. cochl.* iv. *Ol. Roſ. & Myrt.* āa. ℔ſs. *Sevi vitulin.* ℥iv. *coq.*

ad

ad ſuccor. conſumpt. deinde add. thuris ℥x. *Ceræ q. ſ. f. Cerot.*

In an Eryſipelas proceeding from an external Cauſe, there is not ſo much Danger of retracting or repelling the Humour into the Blood again, ſince in ſuch Caſes the Blood does not ſo much abound with the prediſpoſed Humour, but that it might be contained amongſt the reſt of the Humours, without any evident ill Symptoms, were it not excited by external Cauſes; therefore thoſe concurring Cauſes, and the Symptoms, being obviated and appeaſed by proper Applications, the Humour may ſafely ſwim in the Maſs of Humours as before, till it can conveniently be diſcharged by lenient Purges and proper Medicines.

A Caution.

But if an Eryſipelas proceed from an internal Cauſe, ſince it is the Quantity and Qualities of the peccant Humour within, that occaſions the ill Symptoms both in the Blood and the Part affected, and excites Nature to make a Diſcharge, it muſt conſequently be of ill Conſequence to drive the Humour back again into the Maſs of Blood, out of the Parts; ſince by its Diſcharge the Fever and internal ill Symptoms being abated, muſt conſequently be exaſperated upon its Retraction or Repulſion, the Quantity of peccant Humours being by that means augmented within, and Nature overpowered with a greater Quantity than can be mixed and retained amongſt the Maſs, and ſhould ſhe be forced to make a ſecond Diſcharge, it might happen to be upon ſome noble Part, and occaſion very dangerous Symptoms, or Death; beſides the Fever it ſelf by this Means, would again be more exaſperated and violent.

In an Eryſipelas therefore, proceeding from an internal Cauſe, though it may be proper to make uſe of cooling Applications to temperate and moderate the exceſſive Heat of the Parts, and to check

the violent Ferment of the Humours; yet they ought to be milder, and not ſo ſtrong as to repel and drive the Humour back again into the Blood; but Medicines which moderate the Heat and Inflammation by their lenient Qualities, and which promote the Diſcharge of the Humour by Tranſpiration, are much ſafer; yet Care muſt be taken leſt ſuch Medicines as promote Tranſpiration conſiſts of hot Parts, which may add to the Heat and Inflammation. *Decoctum Salviæ* with a Solution of *Caſtile Soap*, may be ſufficient, applying afterwards *Ceratum Galeni*. In thoſe that are critical *Ol. Olivar. cum Cera* may be proper. If the Heat be violent, external Applications are frequently to be renewed, leſt they become too dry, and excoriate the Parts. If the Parts excoriate, the Excoriations may be dreſſed with the following ℞ *Troch. alb. Rhaſis & Tutiæ pulv.* ãa ʒi. ß. *plumb. uſt.* ʒi. *camph.* ϑß. *ceruſſ.* ʒi. ſs. *ol. Roſ.* ʒvi. *ſevi agnini* ʒiij. *ceræ alb. q. ſ. f. unguent. in mortar. plumbeo, per duas horas agitat.* or *unguent. Tutiæ* may be made uſe of. If Fomentation be neceſſary, *Olibanum* and *Myrh* decocted in Wine, or a Decoction of Coleworts is commended: Alſo *aq. calcis* ſhaken together with *ol. Lini*, or *ſacchar. Saturni*, beat up with *ol. Roſar.* may be made uſe of, applied with a Feather twice or thrice a day; theſe Medicines being lenient, and moderately drying up the Humours, and cooling the Parts without driving the Matter back again into the Maſs of Blood.

Diſcutients when to be uſed.

When the burning Heat of the Part decreaſes, and the Pain diminiſhes, the Skin being ſufficiently relaxed, Reſolvents and Diſcutients may be proper to ſtrengthen the Part, and reſtore it to its natural Tone, which otherwiſe for want of Diſcutients, often become OEdematous; for the Fibres of the Parts being diſtended beyond their Tone, by the peccant Matter heaped up in them, loſe their Power of Contraction, and ſo give way

for

for ſuperfluous Humours to lodge in them, which would otherwiſe paſs off through the Pores by Tranſpiration; beſides, the morbifick Matter which had lain ſo long in the Parts, the thinneſt Part of it tranſpiring, might be rendered too groſs to paſs through the excretory Veſſels or Pores; but its Parts being divided and ſeparated, by the Interpoſition of the volatile Parts, and ſubtle *Effluvia* of Diſcutients, and diluted by freſh *Serum* from the Blood, is not only render'd thin enough to paſs off by Tranſpiration; but the Fibres more eaſily diſpoſed to contract to their due Tone of Conſtriction. Fomentations proper to ſtrengthen the relaxed Parts, and to diſcuſs this Matter, may be made with *Summitat. Abſynth. Flor. Cham. Sambucin. Roſ. rubr.* &c. in Wine, with an Addition of Brandy; or the following Emplaſter may be made uſe of. ℞ *farin. fabar. Orobi.* āa ʒiv. *ſem. fænugr.* ʒi. *flor. ſambuc. roſar.* āa. ʒi. ſs. *pulver. & coq. in hydromel, ad conſump. humiditatis, deinde add. ol. anethi & cham. q. ſ. f. Emp.*

If an *Eryſipelas* tend to Induration, the Matter being diſpoſed to harden by its long Continuance, and the Evaporation of its thinner Parts, Medicines are proper, which mollify and diſcuſs more powerfully; as ℞ *Rad. Althææ & Lil.* āa. ʒi. ſs. *ſem. lini fænugr.* āa. ʒij. *coq. in Brodio Cap. Vervecin. & extrahatur mucilag. cui add. ol. ex pedibus bovin. pingued. gallin. ol. amygd. dulc.* āa. ʒij. *adip. agnin. & vitulin.* āa. ʒi. ſs. *medullæ* ʒij. *Lytharg. Aur.* ʒiv. *Ceræ q. ſ. f. Cerot.* by whoſe volatile Parts the indurating Matter is gently diſſolved, and the only Mucilage ſtopping the Pores of the Skin, the thinner *Serum* is prevented from flowing off too faſt, which by that means helps the better to ſoften and dilute the groſs Matter, which might otherwiſe grow more viſcid and indurate.

To prevent Induration.

CHAP.

CHAP. IV.

Of a Furuncle, or Boil.

Description. A Furuncle is a painful Tubercle in the external Parts, about the Bigneſs of a Pigeon's Egg, riſing from a broad Baſis into a Cone, attended with Tenſion, Pulſation, and Inflammation.

Cauſe. As to its Cauſe it proceeds from Blood mixed with a tough viſcid Phlegm, which being too thick and groſs to paſs through the ſmall Veſſels, cauſes an Obſtruction, and conſequently a Tumour. The Tenſion is occaſioned, either by the violent Diſtenſion of the Veſſels, or the Groſſneſs of the Humour. How Tumour occaſions Pulſation, Inflammation and Pain, hath been ſufficiently accounted for in the Chapter of Tumours in General.

Difference. Theſe kind of Tumours differ, either according to their Bigneſs, or Deepneſs in the Parts; or as they are more benign or malign. A Furuncle differs from a Carbuncle, by its Tendency to Suppuration, being occaſioned by a Humour leſs malignant and ſubject to Corruption.

Diagnoſticks. As to its Diagnoſticks, in the Beginning it is round, hard and inflamed, its Hardneſs proceeding from the Groſsneſs of the Humour; as it increaſes it riſes into a Cone, and ſometimes a Puſtle, being then more inflamed and painful, eſpecially in the State, which is about the eighth or ninth Day; if it be malignant, it is of a black dusky Colour, attended with a ſymptomatick Fever occaſioned by the Violence of the Pain and Inflammation, which diſordering the Spirits, quickens their Motion, and conſequently the Circulation and feveriſh

Indiſ-

Indiſpoſition; for the quicker the Blood circulates, the hotter it grows, the Reaſon of which I have elſewhere explained in a ſmall Tract of the Reaſon of the Heat of the Blood. When the Tumour is malignant, it hath other ill Symptoms beſides the Fever, iſſuing forth a thin corrupt Sanies, and if at all, digeſts with much Difficulty. *Prognoſticks.*

Theſe Tumours are without Danger, and frequently digeſt and break without Aſſiſtance, but when they happen about the Tendons or Nerves, they are very painful, as alſo in the Noſe or Ears. *The Method of Cure.*

As to the Cure; a regular Diet and Evacuation are neceſſary; but ſince the Humour is too groſs and viſcid; ſo as to occaſion at once a total Obſtruction they refuſe to yield to Repellents or Diſcutients, and are only to be treated with ſuch Applications as help them to ſuppurate, ſuch as *Rad. & Fol. Altheæ, malv. Rad. Lil. uvæ paſſæ, ficus, &c.* or ſuch Gumms as by their warm and penetrating Parts promote Digeſtion, as *Gum. Galb. Ammoniac. &c.* or the following Compounds, *Emp. Diachyl. cum Gum. de Melilot. de Mucilagin. &c.* If the Pain and Inflammation be very great, the following Cataplaſm may be applyed, ℞ *Mucilag. ſem. Pſyllii, Althææ lini* āā ℥i. ß. *farin. hord.* ℥ii. *ol. Lil. axung. Gallin.* ℥i. *Butyr. recent.* ℥ſs. *Croci* ℈i. *cum vitell. ovi, f. Cataplaſm.* The Tumour being open, *deterge* with *mundif. ex Apio.*

In theſe Tumours the Matter is ſo thick, that they break of themſelves before it is wholly attenuated and diſſolved into the Form of Pus, leaving a tough viſcid Core in the Middle.

CHAP.

CHAP. V.

Of Epinyctis and Terminthus.

Description. THey are painful Puſtles affecting the Skin in the Arms, Hands, and Thighs.

Epinyctis is a ſmall Puſtle of a dusky Red, and of a pale livid Colour, with great Inflammation and Pain; it firſt diſcharges a Sanies, and then a bloody Matter. *Terminthus* is of a blackiſh Colour; it breaks and gleets, and comes away in a Slough, in a Day or two.

The Cauſe. They proceed from a very hot biting Humour, mixed with Phlegm, which occaſion an Obſtruction in the Superficies of the Skin, where the ſharp Humour corroding the nervous *Papillæ*, cauſes that violent Pain and Inflammation; the latter is more virulent, which occaſions the whole to come away in a Slough.

The Cure. In the Cure, the ſame Rules are to be obſerved as in a Phlegmon, in reſpect of Bleeding, Purging, and Diet. As for external Applications, lenient Anodynes are proper to abate the Inflammation and Pain, as *fol. cicutæ*, *Solan. Plantag. &c.* When broke, they are to be digeſted with Lenients, as *Baſil. cum ol. Roſar.* and then healed with *Unguent. Tutiæ*, or the like.

CHAP. VI.

Of the Inflammatory Tumours of the Glands, viz. *Phyma*, *Phygethlon*, *Bubo*, *and Parotis.*

A *Phyma* is a Tumour with Inflammation of the conglobate Glands about the Jaws; by which it is distinguished from a *Ranula*, which is about the internal; and *Parotis*, which is of the external salival Glands; but the same Name is given to Tumours about the *Anus*, from their Similitude to glandulous Tumours. *The Description.*

They are caused by the Grossness of that Humour that is seperated by those Glands, which stagnating and obstructing the Vessels, tends to Suppuration. When the Humour begins to suppurate, it frets and destroys the Continuity of those Blood Vessels that depose it, so that at the last it is not only formed of a Phlegmatick *Serum*, but acquires a Mixture of Blood; the Parts about the Tumour being pressed upon by its Extension, occasion Pain and Inflammation. *The Cause.*

The Tumour according to the Figure of the Glands, is round and hard, attended with Tension, Pulsation and Inflammation; especially in time of Suppuration, which happens sooner than in Phlegmons. *The Diagnosticks.*

They differ from *Strumæ*, the latter being incysted, and to be eradicated by Escharoticks; whereas these, after the Discharge of the Matter, are to be cured by the common Intentionts of Digestion, Detersion, *&c.* They are neither dangerous nor difficult to cure. *The Difference, and Prognosticks.*

In

The Cure. In the Cure they admit not of Repellents, it being impoſſible to force thoſe Humours back into the Blood Veſſels, when once diſcharged out of them into the proper Veſſels of the Glands. If they yield not to Diſcutients, as *Emp. de Ranis cum Mercurio*, then Suppuration, which they commonly terminate in, is to be promoted with proper Applications, as *Diachyl. cum Gummi de Melil. &c.* or if the Tumour be painful, emollient Cataplaſms made of *Rad. Althææ lil. ſem. lini, Pſyllii, &c.* are convenient. When the Tumour is ſuppurated, it is to be cured by the common Intentions.

Deſcription. *PHygethlon* is a glandulous Tumour under the Jaws, call'd *Panus*: It is round and flat, and hath a Mixture of Choler, as *Phyma* had of Phlegm, being of a yellowiſh red Colour.

Cure. The ſame Method is to be taken in the Cure as in a *Phyma*, *viz.* Emollient Cataplaſms, or other proper Suppuratives.

Definition. A *Bubo* is a Tumour of the Glands in the Groin or Arm-Pit with Inflammation.

Difference. It differs according to the Nature of the Humour, being either benign or malignant, venereal or peſtilential; critical or ſymptomatical.

The Cauſe either internal, As to the Cauſe, it is either internal or external. If the Tumour be benign, it is occaſioned by the Groſſneſs of the Humour ſeparated from the Blood, which not being fine and thin enough to paſs through the proper Veſſels of the Gland, cauſe an Obſtruction, and form a Tumour by too much diſtending the Veſſels. If the Tumour be malignant, the Humour is not only too groſs and thick to circulate, but contains likewiſe virulent corroſive Parts; which when the Humour once loſes its due circulating Motion, preſently ſeparate themſelves from the reſt of the Maſs, and not only deſtroy

deſtroy its Texture, but corrode and fret in pieces the Veſſels themſelves; ſo that, whereas in a benign Tumour, the Matter is gradually, and by Degrees, brought into the Form of *Pus*, by regular Digeſtion; in theſe malignant Tumours, it tends to corrupt and putrify; the virulent corroſive Parts violently and more minutely fretting and diſſolving the Texture of that Humour.

But ſometimes a *Bubo* proceeds from an external Cauſe, as Pain in the external Parts; ſo a Wound in the Hand, Arm or Finger, will occaſion a Tumour in the Arm-pit; and an Ulcer or Wound in the Foot, a Tumour in the Groin; in this Caſe, tho' the Humour ſeparated by the Gland, may be thin enough to paſs through the Veſſels, without occaſioning a Tumour by its Groſſneſs; yet Pain occaſioning a greater Flux of Humours to the Part; they are ſeparated faſter than the excretory Veſſels of the Gland can diſcharge them, and conſequently the Veſſels in the Gland will be crouded and tumified; or the excretory Veſſels may may be preſſed upon, and obſtructed by the Fibres of the Parts they are to diſcharge themſelves into, the Fibres of that Part being contracted and conſtringed by Pain, ſo that the Humour may be heaped up in the Gland for want of free Diſcharge, though it were ſeparated from the arterial Blood, no faſter than Nature could otherwiſe vent it. But theſe kind of ſymptomatick Tumours gradually decline, as thoſe Accidents that occaſioned them are relieved. *or external.*

The Signs of a *Bubo* are, Tumour of the Glands in the Groin or Armpits, with Pain, Inflammation and Hardneſs; if a Fever preceded, they are critical; if they proceed from, and depend upon Accidents, thoſe Accidents are evident. If they proceed from an internal Cauſe otherwiſe, the Symptoms ſhew the Nature of the antecedent Cauſe. *The Diagnoſticks.*

If

The Prognosticks.

If a *Bubo* be benign, it is not dangerous, except for want of due Care, and opening in time, they grow fistulous. If they depend upon a Translation of Matter, the Cure is difficult; if the Matter be crude, and the natural Heat much weakened. If in a Tumour above, the Lungs; or below, the *Uterus*, Bladder, or *Rectum*, are affected with it, it is more dangerous.

In the Cure of a *Bubo*, the Part affected is not only to be considered, but also the Nature of the Cause. Since then the Humour that produces the Tumour is separated from the arterial Blood, and contained in the proper Vessels of the Gland, the Use of Repellents are to be avoided. Mr. *Wiseman* indeed says, they ought not to be repelled; but since the Humour is separated from the arterial Blood, and contained in other Vessels, as I said before of a *Phyma*, and it is impossible to force the Humour back into the Blood Vessels; therefore in all Tumours of the Glands, Repellents must be useless, and consequently to be avoided; for since the Humour will not admit of Repulsion, they must rather be prejudicial, in condensing and fixing the Humour in the Part.

Since then the Humour admits not of Repulsion, it is either to be discussed or inclined to Suppuration, in order to its Discharge. But since according to the Account we have given, in the Chapter of Tumours in General, of the Nature, and Manner of Discussion, we suppose it to be performed by the Influence of the subtle *Effluvia* of Discutients, dividing and separating the Parts of the Humour, and thereby attenuating it, and rendering it fluid enough to pass freely again through its proper Vessels; I say, since according to this Account, we suppose the Humour discussed to return again into the Mass of Blood, there may arise a Question, why the Humour may with more Safety be returned back into the

the Mass of Blood, by Discutients, than if it were forced back by Repellents; and since, if it might be improper to repel it, why it may not be as improper to discuss it, as long as it must pass again through its proper Vessels, and consequently be mixed again with the Mass of Blood. To answer this Difficulty, we may consider, that when Humours are repelled, they are forced out of the Part, by the contracting Qualities of Repellents in the same Condition and State that they were brought in, it not being in the Nature of Repellents to attenuate and rarify the Parts of that Humour; and consequently it is liable to be discharged again upon some other Part, if not duly discharged by Evacuation; but when a Humour is rarifyed and attenuated, by the volatile and subtle Effluvia of Discutients, and restor'd to its natural State of Fluidity, it acquires its natural Crasis, and becomes altogether homogeneous; so that then it may safely be returned into the Mass of Blood, the Humour losing its depraved and vicious Qualities. If the Tumour yield not to Discutients, then Suppuration is to be hastened and promoted by proper Applications, of which enough already in the preceding Chapters.

The Tumour to be promoted, when.

If the Tumour be critical, and the Crisis be imperfect, the Encrease of it is to be promoted by encouraging the Distension of the Vessels, and giving them Liberty to swell, by guarding the Parts from the external Pressure of the Atmosphere, by the Application of Cupping-Glasses. The Effects produced by the Application of Cupping-Glasses, is commonly said to be by Attraction. But to give a more reasonable Account of their manner of working, we are to consider, that as our Bodies are contained in a Medium of Air, or Atmosphere, whose Extent from the Superficies of the Earth, is a considerable Height, and consequently makes a great Pressure upon whatever lyes under it, so that a Pillar of Air of any

fixed Diameter, is able to raiſe Mercury in a cylindrical Tube, a conſiderable Height; now when our Bodies are equally on all ſides compreſſed with the incumbent and circumambient Preſſure of the Atmoſphere, as ſtatical Obſervations prove it to be, every Part being equally preſſed, the Humours within circulating through the Veſſels, have equal Power to diſtend them as they are impelled by the Force of Circulation; but when by the Application of a Cupping-Glaſs, the Preſſure of the Atmoſphere is kept off any Part, the Force of arterial Pulſation hath more Power to diſtend the Veſſels in that, where there is no external Preſſure, and conſequently the Veſſels are inclined to tumify; beſides the direct Preſſure of the Atmoſphere is not only taken off, but the collateral Preſſure on each ſide, forces the Skin and Humours contained in its Veſſels laterally into the Glaſs; the Air which might oppoſe its Intruſion being either driven out by Fire, or exhauſted by Suction. If any one ſhould ask what makes the Glaſs adhere ſo cloſely to the Part? If the Parts were thus internally and laterally forc'd againſt it, it is eaſily anſwered, that that Preſſure of the Atmoſphere which is kept off the Part by the Glaſs, preſſes againſt the Glaſs, and ſo keeps it firm and faſt, But thoſe who would underſtand the ſtatical Reaſons more fully, may conſult the Experiments made by the Honourable Mr. *Boyle* to prove the Effects of the Preſſure of the Atmoſphere. What I have ſaid may be ſufficient to ſhew the Manner of the Effects of Cupping-Glaſſes.

Other Methods proper to promote critical Tumours.

But to proceed to the promoting of critical Tumours, Cupping-Glaſſes are not only convenient, but alſo warm Medicines, which exciting Heat and Inflammation, cauſe the Humours in the Veſſels to expand themſelves, which diſtending the Veſſels, give way to the Influx of more Humour, and ſo encreaſe the Tumour. Medicines convenient for that

that

Purpoſe are *Sterc. Columbin. ſem. ſinap. Urticæ, Ficus*, &c. *Emp. Diachyl cum Gum. Pix Burgundiæ, Galban. colat. per ſe*, &c. or ℞ *cepam magnam, excavatur & impleatur cavitas Theriaca, deinde papyro involuta coq. ſub cineribus calid. & cum ol. Scorp. f. Cataplaſm. addendo ferment. Acer.* ℥ſs. *M.* or ℞ *Emp. Diachyl. cum Gum.* ℥ij. *Picis Burgund. Ammoniac. ſolut.* āa ℥ſs. *pulv. rad. Ariſtoloch. Gent.* āa. ℥j. *cum ol. Scorp. f. Cerot.*

Suppurative ſometimes diſcuſs.

Theſe Medicines are proper to promote critical Tumours and their Suppuration; but it frequently falls out, that the ſame Medicines which are deſigned to ſuppurate, happen to diſcuſs the Tumour; and on the contrary, thoſe Medicines that are propoſed to diſcuſs, tend to Suppuration; the Reaſon of which depends upon the Condition of the Humour to be ſuppurated or diſcuſſed; for ſince both Diſcutients and Suppuratives contain volatile warm Particles, which tranſmit their ſubtle Effluvia; if the Humour be not ſtagnated, the Humour being but partly, and not totally coagulated, ſo that the Circulation is not wholly obſtructed, then Suppuratives, by their warm Parts, have the Effect of Diſcutients; but when the Humour is firmly fixed in the Part as to hinder Circulation altogether, then the volatile Parts of Diſcutients, not being able to attenuate that Matter which hath wholly loſt its Craſis, by a perfect Stagnation, only aſſiſt the volatile Parts inherent in the Humour, to promote Digeſtion and Suppuration.

But to proceed, if a *Bubo* be ſymptomatical, and the Body plethorick, as it generally happens, Bleeding and Purging will be requiſite to carry off the Quantity, and correct the Qualities of the *Cacochymia*, which by preventing a conſtant and great Influx of Humours upon the Part, will abate ill Symptoms, and give the Humour contained in the Gland more time to go quietly off by Diſcuſſion, or to ſuppurate with milder Symptoms.

If the Tumour proceeded from the Pain of any other Part, that Pain is to be relieved by Lenients; and the Humour in the Glands to be diſperſed by the Help of Diſcutients, which may be aſſiſted by the Help of Aſtringents; for though Aſtringents are improper, when the Humour is groſs, ſince Repulſion is impoſſible; yet when the Humour is attenuated by Diſcutients, they, by contracting the Fibres of the Parts, may aſſiſt to preſs the attenuated Humour out of the proper Veſſels of the Glands into their excretory Veſſels. If the Humour tends to Suppuration, it is to be promoted with proper Medicines, and the Tumour after opened, to be digeſted, deterged, incarned, and cicatrized, accordingly.

Deſcription. *Parotis* is a Tumour of the Glands behind, or about the Ears, attended with violent Pain and Inflammation.

The Cauſe. The Cauſe of this, as of all other Tumours of the Glands, is the Groſsneſs of the Humour ſeparated, which being too thick to paſs through the Veſſels freely, cauſe an Obſtruction, and at laſt a total Stagnation. When once the Humour begins to ſuppurate, it frets the Extremities of the Blood Veſſels from whence it is ſeparated, and then the extravaſated Blood contributing to the Increaſe of Tumour; likewiſe, exaſperates the Pain and Inflammation. Sometimes it is occaſioned by an external Cauſe, *viz.* a Bruiſe, or Wound.

Difference. They differ according to the Nature of the Humour, it being Phlegmatick, Cholerick, or mixed with Melancholy; as alſo, being critical or ſymptomatical, proceeding from an internal Cauſe, or occaſioned by an external Accident.

Diagnoſticks. The Signs of a *Parotis* are, a Tumour of the Parotid Glands, attended with Pain and Inflammation. If malignant, it is attended with a Fever. Whether it

it be ſymptomatical or critical, or proceeded from an external Cauſe, will appear from what preceded.

As to the Prognoſticks, a *Parotis* without a Fever, is more benign, than when a Fever accompanies it. They are likewiſe leſs dangerous, that follow ſlow Fever, than thoſe that happen after acute. Thoſe which are critical, are wholſome, and eaſily cured; but thoſe that ſucceed great Evacuations, or Fevers, are more dangerous. Thoſe that are ſymptomatical, and proceed from vicious Humours, are difficult to cure, and dangerous. *Prognoſticks.*

In the Cure, if the Tumour be critical, it will be proper to mitigate the Pain with Lenients, and promote Suppuration. Repellents in theſe Tumours are to be forborn, becauſe by conſtringing the Parts, we may hinder the Part from receiving the peccant Humour, and from diſcharging it ſelf out of the Maſs of Blood. If the Inflammation and Tumour be very great, Evacuation is not only to be made by Inciſion, but alſo by purging Medicines; and the Patient is to be kept to a moderate and convenient Diet; embrocating the Part with *ol. Cham. Lumbricor. lini*, &c. If the Tumour riſe not kindly, it may be promoted by Cupping-Glaſſes. If the Matter be crude and viſcid, and Induration be ſuſpected, ſtrong Emollients and Diſcutients are to be applied; but if it tend to Suppuration, the following may be made uſe of. ℞ *rad. lil. cæpar. ſub cineribus coct.* āa. ℥iv. *Muc. ſem. lini.* ℥j. ß. *farin. Trit.* ℥ij. *Unguent. Baſil. axung. porcin.* āa. ℥j. ß. *vitel. ovor.* N°. ij. *Croci.* ℈j. *f. Cataplaſm.* The Matter digeſted, and the Tumour opened, digeſt, deterge, &c. as in other Tumours of the like kind. *The Cure.*

CHAP. VII.

Of a Carbuncle.

Deſcription. A Carbuncle is a round hard Tumour, much like a Boil, of a dark red Colour, attended with the higheſt Degree of Pain and Inflammation, with ſeveral *Ulcuſcula* round it, corrupting the Part it affects, ſo that the whole Piece comes away, if the Patient recovers.

The Cauſe. It is occaſioned by a Humour ſo much depraved, as to acquire the Virulency of a Cauſtick, which at once deſtroys both the Texture of the Humours laid down in the Part it affects, and even the Parts themſelves, corrupting the whole, and burning them like a Cauſtick. It is commonly a Symptom of peſtilential Diſeaſes, but happens ſometimes, the Humours being corrupted to that Degree of Virulency, where there is no Appearance of the Plague; ſo that in reſpect of the antecedent Cauſe, it is either peſtilential or not peſtilential.

The Diagnoſticks. The Symptoms or Diagnoſticks of a Carbuncle, are, Nauſea, Vomiting, Dejection of Appetite, Tremor, Palpitation of the Heart, frequent Swooning, Delirium, *&c.* If the Tumour be peſtilential, the Symptoms are more violent than otherwiſe, beſides, the Diſeaſe being Epidemical, ſhews the infectious ill Diſpoſition of the Air.

The Prognoſticks. The larger the Carbuncle, the more dangerous, and likewiſe the more it degenerates from Red to Black, the worſe. Thoſe that are in the Emunctories, or near ſome noble Part, are more dangerous than thoſe which happen in the muſculous Fleſh; but the greateſt Danger is when the Humour is returned back into the Blood again.

In

In the Cure of a Carbuncle, two things are to be conſider'd, Firſt, the Nature of the antecedent Cauſe, Secondly, the Nature of the Conjunct. *The Intentions of Cure.*

As to the antecedent Cauſe, it is evident from the Nature of the Symptoms, that the Blood muſt be very much depraved in its Craſis and full of *Cacochymia*; ſo that when the Blood is by any Accident put into Diſorder, and begins to ferment more than ordinary, the very hot and corroſive Parts make the Fermentation ſo acute and violent, that they at once deſtroy the Texture of the whole Maſs, ſeparating the thick and groſs Fæces of the whole, from the thinner and more corroſive fermenting Parts, ſo that Nature is put upon an immediate Criſis, otherwiſe the whole Maſs of Humours being thus ſeparated, and the Mixture of the different Parts diſſolved, there would follow a univerſal *Coagulum* of the whole, were not the groſſer and virulent Parts diſcharged upon ſome particular Part, which form the Tumour called a Carbuncle. *The antecedent Cauſe conſidered.*

The Parts of the whole Maſs of Humours being thus diſunited, and the natural Texture of the whole broke, there not only enſues a want of Appetite, the Ferment of the Stomach being alſo depraved; but the Craſis of the perverted Humours cauſe an irregular Fermentation and Tremor all over the Body: The Blood being thus diſordered, affords but a very ill diſpoſed *Pabulum* to ſupport the animal Spirits, which being thus likewiſe depraved, and alſo affected with the irregular Ferment of the Blood, occaſion a *Deliquium*, or Swooning. Their Motion likewiſe through the Nerves being irregular and weak, the Contraction of the Fibres of the Heart, become likewiſe irregular and faint, which cauſes a Palpitation; and the Stomach not only affected by the Conſent of the Nerves, but alſo by the depraved Humour diſcharged into it, becomes ſubject to *Nauſea* and Vomiting, *The Symptoms accounted for.*

the great Diſorder and Confuſion of the Spirits, and the Inflammation of the Blood in the cortical Part of the Brain producing alſo a *Delirium.*

Evacuation by Bleeding. From what hath been ſaid, it appearing how great a Diſorder the Virulency of the Humour hath put Nature into; it is abſolutely neceſſary, to make Evacuation and Diſcharge proportionable to the Urgency of the Symptoms; and firſt by Veneſection, which is to be taken in ſuch Quantities as the Strength of Nature will bear, even to Fainting; by which Diſcharge the Veſſels being ſufficiently emptied, there is convenient Room for other Liquors to attenuate and temperate the violent Heat, and to dull the Edges of the Particles of that virulent acrimonious Humour. The Virulency of the Humour is not only to be checked by Veneſection, but lenient Purging, as *Caſſia*, *Manna*, &c. and the Body to be kept open by Clyſters; and theſe as well as Bleeding are to be made uſe of in the Beginning, leſt by the Abundance of virulent Humours, the Craſis of the Humours ſhould be wholly deſtroyed.

Lenient Purging neceſſary.

In peſtilential Caſes, where the infectious Qualities of the Air concur with the prediſpoſed Humours, Bleeding is not to be altogether ſo plentiful, as when only the Depravity of the Humours cauſe the Diſeaſe, leſt the Weakneſs of the Spirits occaſion them to give way more eaſily to the Malignancy of the Diſtemper.

A Caution. But beſides Bleeding, Purging and Clyſters, it will be requiſite to make uſe of Alexipharmicks to reſiſt the ill Effects of this malignant Humour; as *Theriaca Methridat. Elect. de Ovo*, *Confect. de Hyacinth. de Alkermes*, &c. by which the Spirits will be ſupported, and the Mixture of the Blood recovered, and its Texture preſerved, ſuch warm Medicines keeping the Blood warm and fluid, and preventing the ill diſpoſed Humour from coagulating it. To moderate the extraordinary violent Heat, the follow-

following Medicines may be made uſe of. ℞ *Conſ. Borag. Bugloſ. Lujulæ* āa ʒi. *ſpec. de Hyacinth.* ʒi. *Cort. Citr. Cond. N. Moſch.* āa ʒiij. *cum q. ſ. Syr. è ſucco Citri, f. Elect.* taking a ſmall Quantity every four Hours, drinking ſome of the following Julep after it. ℞ *Aq. Scord. Dracont. citri* āa ʒiij. *Theriacal.* ʒij. *ſpec. de Hyacinth.* ʒj. *Syr. de ſuc Citri q. ſ. Julep.*

What is to be done in reſpect of the conjunct Cauſe.

In reſpect of the Tumour, and its conjunct Cauſe, we are to conſider, that the Diſtemper, being very acute, and the Criſis ſpeedy, the groſſer Parts of the Humours ſeparated from the reſt, are preſently thrown into ſome Part, where they cauſe an immediate Obſtruction and Tumour; and ſince they cannot be thrown into any Part, without this virulent Humour with which they are impregnated, they preſently putrify and corrupt the Part. But if the Tumour increaſe not faſt enough, to free the Blood as much as poſſible of this depraved Humour, it may be encouraged by the following Cataplaſm. ℞ *ſummit. Rut. M.* ij. *ferment acr.* ʒiij. *fic. veter.* №. viij. *piperis alb.* ʒij. *ſal. Commun.* ʒiij. *M.* or the Cataplaſm mentioned in the Chapter of a *Bubo*, of *Theriaca coct. in cæp. excavata*; or it may be promoted by the Uſe of Cupping-Glaſſes. If Nature be very ſtrong, and the Tumour riſe with violent Heat and Pain, it may be tempered with cooling Cataplaſms made of *fol. Plantag. pan. tritici* decocted in Wine, which hath been mentioned elſewhere.

If the above mentioned Method prove ineffectual it is reaſonable to vent the Humour by deep Scarifications, waſhing the Scarifications with *Theriaca* and *mel. Ægypt. in acet. vini*, then fill the Scarifications with a convenient Eſcharotick as, *troſch. Andronis*, or *Polydiæ*, and apply a Cataplaſm over all, of *farin. Orob.* &c. or the malignant Humour may be conſumed by actual Cautery, ſeparating the Eſchar by convenient Digeſtives.

If

If the Tumour disappear, and the Humour mix again with the Mass of Blood, it soon corrupts the whole Mass, and proves fatal.

CHAP. VIII.

Of a Paronychia.

Definition. A *Paronychia* is a Tumour about the Nails or Ends of the Fingers, commonly call'd a Whitlow.

Differences. It differs, as it is benign or malignant, the former lying under the Skin, and quickly coming to Suppuration; or as malignant, when it lyes deep in the Flesh, and is difficult of Digestion. It differs also according to the Temper of the Humour that occasions it.

The Cause. As to the Cause, the benign proceed from a Salt or cholerick Serum collected under the Skin, being too thick to perspire through the Pores of the Cuticula, which is thick in the Fingers. If it be malignant, it commonly proceeds from a gross Phlegm, which is very slow and hard to digest, lying deep and frequently collected betwixt the Bone and Periosteum.

Diagnosticks. The Signs of a *Paronychia* are great Pain and Inflammation, with Pulsation and Tension; and when it is malignant, the Pain is greater, attended with a Fever and Fainting.

As to the Prognosticks, the benign are easily cured, the greatest Danger being the Loss of a Nail; but the malignant, if not timely remedy'd, corrupt the Periosteum, and the Bone, and by Degrees extend

tend their Symptoms to the next Joint, and the whole Hand.

In the Cure, Lenients, and emollient Suppuratives are convenient, as *fol. Malv. Hyoſciam. Rad. Althææ, ſem. pſylli, lini, fænugræc.* &c. but Care muſt be taken to diſcharge the Matter in due time, by Inciſion, leſt by waiting for Suppuration, the Humour corrupt the Perioſteum, and foul the Bone. When the Inciſion is made, the following Cataplaſm may be applied. ℞ *ſem. Lini fænugræc.* āa. ℥ſs. *muc. ſem. Pſyllii* ℥j. *vitell. ovi* №. i. *Croc.* ℈j. *ping. Gallin. aut butyr. rec. q. ſ. f. Cataplaſma.* Or it may be dreſſed with *Baſil.* If it be full of tough Phlegm, or ſpungy Fleſh, it may be deterged with *præcip. rubr.* laying a Pledgit over it, ſpread with *Baſil.* and *Emp. Diachalciteos* over all, with proper Bandage, to keep the Part in its due Shape. *The Cure.*

CHAP. IX.

Of a Pterygeon.

Pterygeon is an Excreſcence of Fleſh about the Nails of the Fingers or Toes. It often happens after a Whitlow; or is cauſed by a Bruiſe under or about the Nails; ſometimes it riſes from the Root of the Nail, ſome Puſtle there having preceded: When the Fleſh under a Nail is bruiſed, it cauſes Pain and Inflammation, which is ſucceeded by an Eruption of Matter, and afterwards an Excreſcence of ſpongy Fleſh. *Deſcription and Cauſe.*

They

Differences. They differ as the Cauſe varies, and according to the Part affected, riſing either from the Sides or the Roots of the Nail, with Eroſion, or under the Nail.

Diagnoſticks. The Signs are Evident, by the Ulceration and Excreſcence; and if the Bone be putrified, it is evident by the Smell.

Prognoſticks. When they riſe from under the Nail, they are eaſily cured; but when they riſe from the Root of the Nail, they are more difficult, and in old People are apt to gangrene.

The Cure. In the Cure of a ſimple Ulceration with Excreſcence, the Nail is firſt to be cut away, that Medicines may be applied to conſume the looſe Fleſh, and cicatrize it. To which Purpoſe, dry Lint, or Lint dipt in *aq. calcis*, and dryed, or *Pulv. granator. Terra ſigillata*, *Lapis Tutiæ*, or *præcip. rubr.* But moiſt and greaſy things are to be avoided, ſince they rot the Nails. If the Excreſcence riſe from the Root of the Nails, more powerful Dryers are to be made uſe of; as *Æs uſtum*, *Squammæ Æris*, *Calx viva*, *Troch. Polydeæ*, *Andronis*, *Muſæ*. The Vitriol Stone, or Allum, will ſerve to cicatrize.

CHAP. X.

Of Pernio.

Pernio is a thick red Swelling in the Hands and Feet, with itching Pain. In the Hands they are called Chilblanes, in the Feet, Kibes. *Description.*

The Cauſe is external Cold, which ſtopping Tranſpiration, and penetrating deeper, condenſes the Humours in the Skin, which occaſions painful Swellings; and the Humour, for want of Tranſpiration, ſtopp'd betwixt the Cutis and Cuticula, ſeparates them, and cauſeth Bliſters, and by Degrees growing hot and ſharp, corrode the Skin, and ſometimes the Parts under it. As for the internal Cauſe, the Humour is naturally too thick, and the Parts tender, which diſpoſes them to be thus affected with external Cold. *Cauſe.*

They are known, by their thick red Colour, attended with ſeveral ſmall Wheals, which itch much, and when rubbed, ulcerate, and chop the Skin, iſſuing out a thin Humour. *Diagnoſticks.*

Chilblanes are not dangerous, though difficult to cure in cold Weather; but Kibes, often, if neglected, ulcerate the Parts beneath, and ſometimes the Fleſh to the Bone, and are apt to gangrene. *The Cure.*

In order to the Cure, the Parts are to be kept dry and warm, to promote Tranſpiration; Socks dipp'd in Brandy are convenient, alſo Cloaths dipp'd in Salt Water are ſometimes beneficial; *Sp. Salis rect.* hath been often found effectual. Fomentations of freſh Water, or Broths, promote Tranſpiration, eſpecially thoſe made with warm Herbs; as Wormwood, Marjoram, Thyme, Hyſſop, Rue, Roſmary, &c. *Unguent. Roſat. cum Terebinth.* in a roaſted Turnip *Prognoſticks.*

Turnip is good, or ℞ *Mannæ*, *Thuris*, āa. ʒj. *Cort. Pini*, ʒij. *axung. Porcin. & Anſer.* āa ʒiij. *ceræ q. ſ. f. Cerotum.* If the Ulceration be large, it is cured as an Ulcer with Fluxion.

CHAP. XI.

Of a Varix.

Deſcription. A *Varix* is a Dilatation of a Vein, which commonly happens in the Thighs and Legs; in the Teſticles and hemorrhoidal Veins; and in Women the Belly is frequently affected.

Cauſe. As for the Cauſes, the Fault is either in the Humours, or the Veſſels that contain them or both; *The Fault of the Humours.* the Humours are the Cauſe, when by their Groſsneſs they are ſubject to coagulate, and have not free Paſſage through the Veſſels; when the Blood is coagulated and ſtopp'd in the Veſſels, it preſently diſtends them, and the clotted Blood thus ſettled in the Part, gradually encreaſes by the Adheſion of freſh Particles of Blood, which being denyed a free Paſſage likewiſe through the Veſſels, are by that Means diſpoſed to coagulate, and adhering to the firſt coagulated Maſs, add to its Bulk: As the Matter coagulated increaſeth in Bulk, it alſo enlargeth its Sinus, the Veſſels ſtill diſtending and yielding to the Preſſure of the Humours forced on by the Circulation of the Blood, which conſtantly endeavours to make its way betwixt the Coagulum and the ſides of the diſtended Veſſels.

The

The Veſſels are the Occaſion of it, when their Fibres are relaxed and weaken'd, ſo that the Veſſel having loſt its natural Conſtriction, eaſily gives way to, and is diſtended by the Preſſure of the Humours, which is the greater when the Veins are weaken'd, which ought to ſupport the Weight of the aſcending Blood, in which caſe the diſtended Veſſel forms a varicoſe Sinus, which continues full of Blood, tho' at firſt neither coagulated, nor perhaps diſpoſed to Coagulation, but loſing the free Motion it hath in other Parts, at laſt the Parts of that Blood, for want of their uſual Agitation, adhere to one another, and form a *Coagulum*; and this happens commonly in cutaneous Parts, where the Veſſels are not ſupported by the contiguous and adjacent Veſſels. But ſometimes the Veſſels are not only in Fault, but the Groſſneſs of the Humours likewiſe concur. *The Fault of the Veſſels.*

When a *Varix* is occaſioned by the Groſſneſs of the Humours chiefly, it happens either by preternatural Accidents, or natural Cauſes. By preternatural Accidents, when the Blood becomes too groſs by the Fault of Indigeſtion and *Crapula*; or when the Blood is chilled and coagulated by external Cold. By natural Cauſes, when by a Separation of Milk in the Breaſt, or nutritious Juice for the *fœtus* in the Womb; the Blood becomes thick, the Vehicle it was diluted with being ſeparated, in which Caſes the Veſſels are obſerved to be ſeven times bigger than naturally. *How Accidents or natural Cauſes concur to the Production of a Varix.*

When the Tumour happens through the Weakneſs of the Veſſels chiefly, there are ſeveral concurring Cauſes, according to the Difference of which, it appears, that the Weakneſs of the Part is more or leſs concerned. As if a *Varix* happen, only by the bare Weight and Preſſure of the Blood, and the Force of Circulation, the Part muſt be very weak to give way to the Humour. But when a Veſſel is preſs'd upon either by Tumour, or any contiguous exter-

external Body, as in Riding, the Veins on the Inside of the Thigh; or in Women with Child, the iliack Branches; or when a Veſſel happens to be ſtreightened by any particular Poſture, there is conſequently a greater Weight upon the Part that gives way to the Tumour, the Reflux of the Blood being ſtopp'd in ſome Meaſure, and Circulation more obſtructed.

The Diagnoſticks. The Signs of theſe Tumours are known by the Turgency of the Veins, being crooked, and of an azure Colour, which are more apparent, the more ſuperficial the Veins are. The Signs of a *Hernia varicoſa*, are knotted Tumours in the Veins leading to the Teſticles.

The Prognoſticks. *Varices* in themſelves are without Danger; but if they be large, and the coagulated Blood ſhould happen to ſwim into the Blood, by making Obſtruction in other Parts, it may occaſion ill Symptoms, as Madneſs, an Apoplexy, Pleuriſy, Pain in the Kidneys, &c. Theſe kind of Tumours are all hard to cure.

The Cure. A *Varix* being healthful, ought not to be cured, unleſs it be large and painful, and ulcerated and bleed; but when the Cure is to be endeavoured, Purging and Bleeding are to be repeated; and likewiſe ſuch Medicines are to be made uſe of, as may cleanſe the Blood, and ſtrengthen the Parts, externally applying aſtringent drying Medicines to contract the Parts, and ſtrengthen their Tone, with convenient Bandage, which may gently compreſs the Parts, and ſqueeze the Blood into the Veſſels gradually again. But if the Blood be coagulated, and will not yield to ſuch Meaſures, then Inciſion is to be made, and the Veſſel laid bare, and a Ligature being paſs'd above, and another below the Tumour, the Vein is to be opened, and the coagulated Blood caſt out, digeſting and healing the Part, as in an *Aneuriſma*. If a *Varix* happen in a

Leg

Leg or Thigh, it may be help'd with a lac'd Stocking or Trowze, placing something that presses hard betwixt the Skin and it, upon the Tumour, as Vellom, or Lead beaten thin. If they happen in the Belly, a Bracer may be convenient. If the Tumour be large, Bleeding and Purging will be requisite, applying *Emplast. Cæsaris*, *Ung. Sumach.* or such like astringent Topicks to the Part. In a *Hernia varicosa*, a Bag-Truss with the aforesaid Applications will be proper. If the Tumour proceed from Wind, it is to be treated as a flatulent Tumour. How a *Varix* is to be treated when ulcerated, will be shewn in the second Part of Ulcers.

CHAP. XII.

Of an Ecchymosis.

AN *Ecchymosis* is an Extravasation of Blood in, or under the Skin, or any other Part, the Skin remaining whole. *Description.*

As to the Cause, it happens commonly by a Blow or Bruise, or Fall, by which some small Vessel is broke, and the Blood extravasated, or it may be occasioned by a Prick with a Lancet or any other thing, the Skin healing and closing up again, whilst the Vessel under it remains open. *The Cause.*

The Signs of it are a black and blue Colour in the Skin with or without Tumour at the first; whether occasion'd by a Blow or otherwise, will be known by the preceding Accidents. *The Diagnosticks.*

If the Contusion be superficial, the Danger is small; but if under the Skin, still greater; yet so much the less, whilst the Blood is thin and fluid; *The Prognosticks.*

but if the Blood coagulate and be separated from its Serum, it is difficult to dissolve, and hard to digest. If the Bruise be large, and the Skin, instead of black, blue, or green; be red, hard and painful, it is dangerous, and if neglected, gangrenes.

The Cure. In the Cure, if the Effusion be small and superficial, a Stupe dipped in Oxycrate first applied, the Humour may afterwards be discussed by being fomented with Spirit of Wine. But if the Extravasation be great, the Vessels are to be first emptied by Bleeding, embrocating the Part afterwards with *ol. Rosar. myrt. cum aceto & alb. ovi*, which is often to be renewed. If stronger Astringents are to be made use of, add *pulv. bol. Armen. sang. Dracon. flor. rosar. rubr. balust. myrt. gallar.* &c. Thus by the Use of Repellents, the Parts are contracted, and less apt to receive the extravasating Humours. But Repellents will have a better Effect if assisted with convenient Bandage; for by Bandage the Parts are compressed and kept so close, that no extravasating Humour can be admitted betwixt the Vessels.

Astringents requisite, and

Bandage.

Discutients when to be used. When the Fluxion is restrained, Discutients are to be mixed with Repellents, as ℞ *Unguent. Arregon.* ℥iij. *ol. Lumbric. Cham. rut.* āa ℥j. *Terebinth.* ʒij. *pulv. sem. fenugræc.* ʒvj. *flor. ros. rubr. baduſt,* āa ʒij. *Croci* ℈ij. *ceræ q. s. f. Cerot.* or ℞. *rad. bryon. sigil. Solomonis* āa ℥iij. *flor. Cham. sambuc.* āa *P.* i. *farin. hord. fabar. sem. fenugræc.* āa ℥j. *summit. Absinth. M.* i. *sem. Camini* ʒiij. *coq. in vin. & f. Cataplasm. addendo in fine Oxym. scillit. q. s.* and foment the Part with *Decoct. Absinth. in Lixivio commun.* but Care must be taken, that neither the Cataplasm nor Fomentation be applyed too hot, lest by heating the Part, they swell the sanguiferous Vessels, and renew the Extravasation.

If the Extravasation will not be check'd by Repellents and Discutients, the Blood is to be let out by

by Incision, lest it corrupt the Parts under it, or the Bone; but if there be no such Danger, but the Tumour inflame, and tend to Suppuration, it is to be promoted, and then discharged by Incision, and the Part digested, deterged, *&c.* If the Tumour tend to Mortification, it is to be treated accordingly; but Care must be taken to leave off such Measures, when the Part hath acquired its natural Heat, lest too much Heat renew the Fluxion, and a Gangrene ensue.

If the Body be bruised by a Fall, or otherwise, after Bleeding the Body is to be kept warm, and ℥j. of *Sperm. Ceti*, or *Irish* Slate may be given upon it, or ℞ *Rhab. tost. terræ sigillat. mumiæ* ãa *p. æq.* of which ℥j. may be given in a convenient Vehicle, after which the bruised Humours may be breathed out by discutient Ointments or Cerots.

CHAP. XIII.

Of an Aneurisma.

AN *Aneurisma* is a soft white Tumour, yielding to Pressure, but rising again after Pressure, attended with Pulsation from the Artery. *Description*

The Cause of it is the Rupture of an Artery, by which Blood is extravasated betwixt the Interstices of the Muscles, or betwixt the Muscles and the Skin. This Rupture is made either by internal or external Causes. The internal Causes are first the violent Force of the Blood in the Arteries, which being driven by adventitious and accidental Force above that of Nature, into some weak Vessel, produces a Ruptnre, it being by that *The Causes.*

Force drove in faſter than it can be diſcharged, as in violent Contractions of the *Thorax* in Coughing, or by the violent Contraction of ſeveral Muſcles in forceable Motion, for the natural Force of Circulation would never burſt an Artery, if there were not ſome additional Impulſe.

But ſometimes it happens, that by the ſharp and hot Parts of the Blood, the Veſſels may be ſo corroded and weakened, as eaſily to give way to a leſs violent Force, as in Bleeding at the Noſe, which often happens even by hot fermenting Blood expanding and diſtending the Veſſels. And if the Blood may thus eaſily break the capillary Arteries, much more may it be done by violent Coughing, Vomiting, or other violent Strains. How theſe may encreaſe the Impetuoſity of the Blood, may appear from what I have elſewhere ſaid of the uſe of the Lungs, in a ſmall Book of the Reaſon of the Heat of the Blood. But whether it be occaſioned by the Force of the Blood, or Sharpneſs of Blood, and Weakneſs of Veſſels, or all together, yet there is always an evident Pulſation in the Tumour, except it lye very deep, partly occaſioned by the Motion of the beating Artery, and partly by the additional Blood forc'd in, and added to the Tumour by every Pulſation.

The external Cauſes that may produce an Aneuriſm, are, whatever may divide the Coats of an Artery to cauſe an Extravaſation; whether Puncture, Inciſion, a Bruiſe or Fall, or the corroding Qualities of Humours.

Differences. An Aneuriſm differs either as it is large, extending it ſelf all over a Part, or only to Part of it; or as it is ſuperficial or deep; or more or leſs protuberant, the Orifice of the Artery being bigger or leſs, ſo that the Blood is with more Force, and irregularly, or more leiſurely extravaſated. In the firſt, the Shape of the Tumour

Tumour is more irregular, in the latter, it anſwers the Shape of the Part.

When the Tumour is ſmall and ſuperficial, it may be eaſily known by the evident Pulſation in every Part of it. If it be large, and riſe ſuddenly, and is white and ſoft from its firſt Appearance, though no evident Pulſation can be perceived, yet we may conclude it to be an Aneuriſm. Another Sign of an Aneuriſm is the frequent Increaſe and Decreaſe of it, the Blood being as often received into the Artery again, and forced out again as often. If it happen upon the Puncture of a Lancet, it appears by the ſpurting out of the Blood, or a ſudden Tumour with Pulſation. If the Skin be very much diſtended by the Largeneſs of the Tumour, it acquires a Redneſs with Inflammation; and if there be a Putrefaction of the Blood, it is commonly attended with a Fever and Fainting, the Spirits being put into a violent Agitation, and the Blood over fermented and heated with the violent Pain. *Diagnoſticks.*

All Aneuriſma's are difficult to cure; if large and deep in the Muſcles, they are incurable; and if unadviſedly opened, fatal; it being impoſſible to apply Medicines to the Part when ſo deep. But where Bandage and Medicines may be applied, they may be cured, or at leaſt relieved to the Eaſe of the Patient. *Prognoſticks.*

In the Cure of an Aneuriſma we are to endeavour to reſiſt the Increaſe of it, and agglutinate the Veſſels by proper Medicines and Bandage; Medicines proper for that purpoſe are *Bol. Armen. Sang. Dracon. Thus aloe, farin. volat Gypſum*, and the Juices *Plantag. burſ. Paſtor. millefol. vinc. pervinc. piloſel. Lamii, acet. & alb. ovor.* but where Bandage cannot be applied, *Emp. Cæſar.* or the like, may be made uſe of. If near the *Trachea*, Compreſs may be made with a Plate of Lead, or beaten Gold. If the Uſe of Aſtringents and Bandage are ineffectual, *The Cure.*

ctual, Escharoticks or actual Cautery may be applied to destroy the extravasated Blood; but if the Artery lye where it may be come at, the best will be to make Deligation and divide it.

A Caution. These Tumours are not to be opened till they break of themselves, and when they do, they are speedily to be restrained by proper Astringents and Bandage, the Life of the Patient otherwise being in Danger, by the great Efflux of Humours.

The Cure of an Aneurism from Puncture. If an Aneurism happen by Puncture in Letting Blood, permit it to bleed freely, which may empty the Vessels without the Trouble of opening a Vein in the other Arm; for when the Vessels are emptied sufficiently, the Pressure and Force of Humours, upon the bleeding Vessel, is less violent; and consequently the Vessel more easily agglutinated. A sufficient Quantity of Blood being discharged, the astringent Powders are to be applied to the Part, with restrictive Plasters over them, and Cloaths wrung out of Oxycrate to the *Axilla* and upper Part of the Arm, then with a double-headed Rowler, take two or three Turns about the Part affected, and rowl up to the Shoulder, returning again to the Part, fastening the Rowler on the Outside; then with another Rowler expulsive Bandage is to be made, from the Hand upwards, placing the Arm in a convenient Posture; and prescribing Juleps, Emulsions and Opiates to allay the Inflammation and Heat of the Blood. If the Arm be much swelled, a laced Stocking and Glove may be serviceable; but if this Method prove ineffectual, Deligation is necessary, which is to be done as followeth.

The Method of making Deligation. First a Ligature is to be made three or four Fingers bredth above the Tumour, keeping a Gripe also upon the Part, then the Arm being held below, Incision is to be made the Length of the Tumour, and the clotted Blood to be cast out, cleansing the Part with a Sponge, then with a Needle, a Ligature

ture is to be paſſed under the Veſſel above, and another below the Puncture; when the Ligature is tyed, it is to be cut off; but the better to diſcover the Veſſel, in order to paſs the Ligature, it may be convenient to ſlack the Gripe, upon which the Blood ſpurting out, will diſcover the Veſſel. The Ligatures being cut away, and the Veſſel divided, the Part may be dreſs'd up with a common Digeſtive of *Terebinth.* dipp'd in *pulv. Galeni*, and a Plaſter of *Diachalcit.* malaxed with *ol. Roſ.* over it, with convenient Bandage, giving the Patient Anodynes internally, to keep the Blood quiet, and to abate its irregular Fermentation. The Part dreſs'd up thus is not to be opened till the third Day, leſt the Parts ſhould bleed again; when it is to be dreſs'd with Digeſtives, which are to be continued as long as it is convenient; and then the Wound is to be deterged, incarned and cicatrized.

CHAP. XIV.

Of an Herpes.

Herpes is ſo called, *a ſerpendo*, from its creeping and ſpreading Quality.

There are three Sorts of it, which take their Difference from the Temper of the Humour that occaſions them. The firſt is *Herpes ſimplex*, proceeding from a cholerick Humour. The ſecond is *Herpes miliaris*, occaſioned by a ſharp ſaline Humour. The third is *Herpes exedens.* In this the cholerick Humour acquires ſo great an Acrimony as to become corroſive.

Three ſorts of Herpes's.

A ſimple Herpes deſcribed.

A ſimple *Herpes* is a Puſtle, with a ſharp Head of a yellowiſh inflamed Colour; Matter ſoon appears in the top of it, though the baſis is inflamed; but when the Matter is diſcharged they preſently heal, the Inflammation going off. They often appear ſingle in the Face and other Parts; and frequently ſpread over the Back, Sides, and Breaſt, attended with an *Eryſipelas* and a Feaver. They are cauſed by the Groſsneſs of that Serum which ought to go off by Tranſpiration, which making an Obſtruction in the Glands of the Cutis, and being ſtrongly impregnated with Choler, produces this Tumour.

Herpes miliaris deſcribed.

Herpes miliaris, is a Cluſter of ſmall Puſtules, almoſt of the Colour of the Skin; they itch very much, and when rubbed iſſue out a thin wateriſh Humour; and then a Scab grows upon the Head of them, of the Form of a Millet-ſeed, whence they derive their Name. As they heal in one Place they break out in another. In theſe Tumours, the Humours which ought to tranſpire being both too thick to paſs through the excretory Veſſels, and too ſharp and ſaline, occaſion theſe ſmall Tumours in the Glands of the Skin.

Herpes exedens deſcribed.

Herpes exedens, is a ſmall Tubercle in the Skin, with an Ulcer like a Pin-hole upon the top of it, commonly without Inflammation or Pain; if it be pricked, it is ſoon cover'd with a dry Scurf, and in a little time, by its corroſive Qualities, corrodes and conſumes the Skin, indurating the Fleſh under it, and the Parts about; the Humour that produceth it being too much impregnated with ſharp corroſive Salts.

Prognoſticks.

As to the Prognoſticks, a ſimple *Herpes* is neither dangerous nor hard to cure; when it ſpreads over a Part it occaſions a feveriſh Indiſpoſition, which goes off when the Puſtles ſuppurate. It is often attended with an *Eryſipelas*. *Herpes miliaris* is

is difficult to cure if it affect the Face, Nose or Ears; when neglected it eats deep into the Flesh, and is hard to cure. *Herpes exedens* is very hard to cure, and if neglected ends in a *Phadegæna*, or a *Cancer*.

The Cure is to be performed partly by Internals, and partly Externals.

The Cure of a simple Herpes.

In a *Herpes Simplex*, the like Method is to be used internally, as in an *Erysipelas*; as Evacuation by bleeding, and lenient Purges, and such Measures as may temper cholerick Humours. In a *Herpes miliaris*, bleeding and purging are convenient, and Alteratives of the like nature with those in the Itch. As for *Herpes exedens*, what Method is to be observed in the Cure of it, will be proposed in the second part of Ulcers.

External Applications in the Cure of an *Herpes*, are much of the same nature with those in an *Erysipelas*, but more drying and cooling, there being no Danger in this Case of any ill Consequences of preventing the Discharge of the Matter out of the Blood, or of repelling it. Medicines commonly used are, *Polyg. Equisetum, Millefol. plantag. solanum, Lithargyr. Auri, Argenti, Cerussæ, Tutia. Bol. Arm. ol. Ros. Myrt.* out of which with a convenient Quantity of Wax, Cerots or Unguents may be made as Occasion requires, as, ℞ *suc. plantag. summit vitis polygan.* āa. ℥iij. *Tut. præp. cerussæ* āa. ℥ß. *Litharg. auri* ℥j. *Antimon.* ʒiij. *Ceræ. q. s. & cum ol. ros. & myrt. f. Cerot.* or, *Unguent. alb. camphorat. Diapompholyg. Tutiæ, desiccativ. rubr. Nutritum cum populeon*, may be used.

The Cure of a Herpes miliaris.

In a *Herpes miliaris* stronger Medicines are to be made use of. ℞ *pingued. porcin. vitulin. Vaccin.* āa. ℔ß. *fol. chelidon. sedi minoris, plantag. Ling. Canis* āa. M. j. *Calcis ter extinct.* ℔ß. *Calcanth. pulv.* ℥j. *flor. æris* ℥iv. *omnia conquassentur, & simul dimittentur marcescere per hebdomadam: postmodum addantur*

tur

tur aq. plantag. ſuc. granator. āa. ℥iv. *pulv. cort. Gran.* ℥ß. *Terebinth. clariſſim.* ℥iij. *iterum bulliant, & cum q. ſ. Ceræ. f. Unguent.* or ℞ *Axung. porcin. ol. Laurin.* āa. ℥ß. *Unguent. Roſat.* ℥iij. *Auripigment* ℥ij. *Merc. ſublimat.* ℥ß. *Argent. viv. Saliv. jejuni extinct.* ℥ß. *Litharg. Auri, Argent. & Ceruſs.* āa. ℥iij. M. *in Mortar. Marmoreo pro Uſu.*

Why Aſtringents are proper in a Herpes.

As to the Reaſon why theſe Aſtringent drying Medicines are proper in a *Herpes*; ſince it proceeds from an Obſtruction of the Glands of the Skin, ſeveral Difficulties may offer; for ſince the Humour fixed in the Glands of the Skin, is ſeparated from the Maſs of Blood, and contained in the proper Veſſels of thoſe Glands, it is impoſſible they ſhould act as Repellents, there being no Regreſs for the Humour into the ſanguiferous Veſſels, it being contrary to the Courſe of Nature to ſuppoſe, that a Humour can have a Reflux, where by the Circulation of the Blood, a conſtant Preſſure of ſubſequent Matter endeavouring to paſs into the Part, would oppoſe that retrograde Motion, as well as the natural Structure of the Veſſels. If then both the tendency of Humours in Circulation, and the Structure of the Parts, ſhew the Impoſſibility of theſe Medicines, by acting as Repellents, to move the Matter of the Tumour out of the cutaneous Glands; and if, as Aſtringents virtually or potentially, they obſtruct the Pores of the Skin, and conſequently hinder Tranſpiration, it may be a Queſtion how they contribute to the Cure, ſince there is no other way for that Humour to be diſcharged, except externally. Another Difficulty which offers in reſpect of the uſe of Aſtringents, is the Tendency of a *Herpes*, eſpecially a ſimple one, which as it terminates in Suppuration, Aſtringents can ſcarce promote their Maturation; and ſince in a *Herpes milliaris*, the Matter diſcharges it ſelf by a thin Gleet, and Aſtringents tend to

the

the ſtopping of that Diſcharge, the reaſon why Aſtringents contribute to the Cure of them, is farther to be enquired into.

In order therefore to the aſſigning of a proper Reaſon for the Uſe of theſe ſort of Medicines, we may conſider, that though in a *Herpes ſimplex* Aſtringents cannot contribute to the Cure by promoting Maturation, yet ſince by their conſtrictive Power they contract the Veſſels, and corrugate the Skin, they may by that means prevent the farther Influx of Humours, and conſequently, that already contained is the ſooner digeſted and diſcharged.

In a *Herpes milliaris* Aſtringent drying Medicines, (which likewiſe cool by Accident, as they prevent the Influx of hot Humours,) not only by contracting and conſtringing the Skin, take away and ſtop the Supply of that ſharp ſaline Humour which occaſions the Tumours, but alſo abſorbe and dry up that which iſſues out, and is already contained; ſo that for want of a conſtant and continued Moiſture the ulcer'd Puſtle becomes dry and ſeparates from the ſound Skin, by the Interpoſition of tranſpiring Moiſture, which being natural and homogeneous, paſſes through the Pores of the Skin freely and without Interruption; ſo that Aſtringent drying Medicines contribute accidently and mediately, and not immediately by their evident Qualities to the Cure of a *Herpes*; only in a *ſimple Herpes*, where it is complicated with an *Eryſipelas*, they by their evident Qualities repel the Humours which tumify the ſanguiferous Veſſels, and inflame the Skin.

But to proceed, in tender Bodies, *Merc. Dulc.* or *præcip.* mixed with *Unguent Roſat.* may prove ſerviceable; but in ſtrong Bodies, the part may be fomented with a *Lixivium*, or an Ablution of *Turbith. Spirit of Vitriol* and the cauſtick Stone are likewiſe ſerviceable. In a *Herpes milliaris* theſe Medicines are ſerviceable, either as they dry up the ſuper-

ſuperfluous Moiſture, and ſo help to ſeparate the dryed Parts, or as they by their mercurial Qualities alter and diſcuſs the Humour that might ſupply the Cauſe of them.

CHAP. XV.

Of an Oedema.

HAving ſhewed how hot Tumours are occaſioned by the depraved Craſis of inflammatory Humours, and how Medicines, whether internal or external, exert their Qualities in relieving them, I ſhall now proceed to examin the nature of cold Tumours, and how Medicines may contribute to the removing of them; and firſt of an *Oedema.*

Deſcription. An *Oedema* is a ſoft cold Tumour, without change of Colour, Pulſation, Heat, or Pain, except when the part is very much diſtended; the Humour that occaſions it being heaped up by Congeſtion.

The Cauſes antecedent. The Cauſe is either antecedent or conjunct, as in other Tumours. The antecedent Cauſe is Twofold, *viz.* either the ill Craſis and Indiſpoſition of the Blood and Humours, or the Weakneſs of the Parts: The ill Diſpoſition of the Humours is occaſioned ſeveral ways. As Firſt, By the Fault of Digeſtion, for want of due Digeſtion, Crudities being heaped up in the Blood. Secondly, By the Groſsneſs and Intemperature of the Air, Crudities may be heaped up in the Blood, the Humours being either chilled in the Veſſels by external Cold, or not ſufficiently impregnated with nitrous Particles in the Lungs, or its Ferment checked and overpowered with too great

great a Quantity, ſo that Errors happening in the ſecond Concoction accumulate indigeſted Humours, though the Chyle was ſufficiently digeſted in the Stomach and Guts. Thirdly, Crudities may be heaped up in the Blood, for want of the uſual and natural Diſcharges made by accuſtomed Exerciſe. When the antecedent Cauſe is heaped up any of theſe ways, the Humour is commonly groſs and phlegmatick, and too thick to paſs freely through the Veſſels; yet according to the different Conſtitutions of the Perſons affected, the indigeſted Humour will be variouſly depraved, being either Cholerick, or impregnated with ſharp and acrimonious Salts. But the Indiſpoſition of the Humours in an *Oedema* are not only occaſioned by the Accidents abovementioned; but, Fourthly, Alſo by the Weakneſs of the Parts, when by ſome Fault in the Structure and Formation of the *Viſcera*, they are not able duely to perform their reſpective Offices, as when the Liver does not duely ſeparate Choler to perfect and digeſt the *Chyle* in the *Duodenum*, crude Chyle is carryed into the Blood, where meeting with that crude Choler which was not ſeparated in the Liver, this Compoſition will produce a Humour the more depraved; and ſo by the Weakneſs of any other of the *Viſcera*, a Humour may be variouſly depraved; being not only crude and phlegmatick, but alſo either inclined to Acrimony or ſome other depraved Indiſpoſirion.

Thus much of the antecedent Cauſe, in reſpect of the Humours and Weakneſs of the *Viſcera*; but as the Weakneſs of the *Viſcera* may be eſteemed an antecedent Cauſe, as they prepare the indigeſted Humour, ſo alſo the Weakneſs of the Part affected with the antecedent Humour may be eſteemed an antecedent Cauſe alſo, ſince by Weakneſs a Part may give way to the Preſſure of Humours, and occaſion Tumour, though the Humour might not be

ſo

ſo much depraved as otherwiſe to occaſion a Tumour; for when the Fibres of a Part are ſo much weakened as to loſe their tonick Stricture, they may give way to the Impreſſion of Humours, though thin enough to circulate without Obſtruction, and thus contribute to the forming of a Tumour. The Weakneſs of the Part may depend upon the Weakneſs of the whole Oeconomy; or its own particular Structure, or may be occaſioned by preceding Accidents, as Contuſions, Fractures, Luxations, *&c.*

The Conjunct Cauſes. From what we have ſaid, the antecedent Cauſes of an *Oedema* are evident, as to the Conjunct, they are either the Weakneſs of the Part which admits the Tumour, or the Humours collected by Congeſtion in that Part; for the Weakneſs of the Part is not only antecedent, but alſo conjunct, ſince it retains the Humour, and is not able to expel it. The Humour contained in the Part differs according to the Difference of the antecedent Cauſes.

Diagnoſticks and Prognoſticks. Theſe Tumours are eaſily diſtinguiſhed by their Deſcription. As to the Prognoſticks: An *Oedema* in it ſelf is not dangerous, groſs Bodies are commonly moſt ſubject to them. When they are occaſioned by Accidents, as Wounds, Contuſions, *&c.* they are eaſily cured, but in weak and conſumptive Bodies they eaſily degenerate into Dropſies. If they grow hard and painful there is Danger of a *Schirrus*, and if they tend to Suppuration, the Matter being crude, the Cure is long and tedious.

Intentions of Cure. In the Cure there are three general Intentions: *Firſt*, The preventing of the Increaſe of the indigeſted Humour. *Secondly*, The diſcharging and correcting the groſs or depraved Humour already collected in the Body, which is the immediate antecedent Cauſe. *Thirdly*, The Removal of the conjunct Cauſe, which is the Humour congeſted in the part

part, and varies according to the different Temper of the antecedent Cauſe.

The firſt Intention is to be obtained by a due Uſe of the Non-Naturals, or the proper Uſe of Medicines which ſtrengthen the Stomach, and promote Digeſtion. *The First Intention.* In Reſpect of the Non-Naturals: The Diet is to be moderate in Quantity, that it may not overpower the natural Digeſtion; for whatever is eaten, more than the Stomach is able to digeſt, occaſions Indigeſtion and Crudities; therefore it is to be proportioned to the Strength of the Stomach, and to conſiſt of ſuch things as are eaſy of Digeſtion. The Drink is to be warm and ſtrengthening, that it may aſſiſt Nature in digeſting. The Air ought to be dry and warm. Exerciſe is very proper, ſince it puts Nature upon a Diſcharge, and helps to attenuate Crudities in order to their being diſcharged by the common Emunctories of the Body; but it ought to be ſo moderate as not to tire and ſpend the Spirits; for if it be violent, and more than Nature can well bear without Fatigue, by exhauſting the Spirits it becomes prejudicial. Sleep is to be moderate, for by too much, the Spirits are buried and conſumed in the phlegmatick Humours.

But to prevent the Increaſe of phlegmatick Humours, a good Regimen in the Rules of Living is not only to be obſerved, but the Stomach is to be ſtrengthened by internal Medicines, *viz.* ſuch as promote Digeſtion, by aſſiſting the Ferment of the Stomach, as *Sal Volat. Oleoſ. Elix. proprietat.* droped in Wine or any proper Cordial, as *aq. Gent. Abſinth. Compoſ. Mirab, &c.* taking firſt the Quantity of a Nutmeg of the following Electuary, ℞ *Conſ. Anthos. flaved. Aurant* āa. ℥jß. *Cort Citri cond.* ℥ß. *N. Moſch. cond.* ʒvj. *Spec. Diarchod.* ʒii. *cum q. ſ. Syr. de cort. Citri. aut Cariophyllor. f. Elect.* or to this Electuary may be added other Cordial Spe-

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cies, or Electuaries, as the Condition of the Patients Stomach may indicate.

The Stomach may be likewise strengthened by external Applications, either Emplasters or Unguents, forms of which are prescribed in the *London Dispensatory*; or with Fomentations made of warm and aromatick Herbs, as *Absinth. Card. Benedict. calom. Aromat. &c.* Mr. *Wiseman* recommends Decoctions of *Sarsaparil. Lign. Guajac. Sassaphras. &c.* But I believe, that such Medicines as are of a direct Diaphoretick Quality scarce make good Stomachicks, since they seem to raise a disagreeable Heat, which rather destroys than promotes the Ferment of the Stomach. Nay even the best of Cordials, if taken in too great a Quantity, prejudice Digestion by over-heating the Stomach.

The Second Intention. But to proceed to the second Intention, which is, to discharge and correct the antecedent Cause, or ill Humours heaped up in the Blood. If the Body be strong, and only full of gross phlegmatick Humours, bleeding is convenient, to discharge part of them, and by that means make more room for the attenuating of the rest, which will be thus better disposed to go off by Evacuations of other kinds; but if the Body be weak, and the Vessels empty, Bleeding is to be avoided, lest the Patient being rendered still weaker, should be, by that means, inclined to hydropical Tumours.

Emeticks proper. But whether Bleeding be thought convenient or not, if the Stomach be foul, and the Patient able to bear it, it will be convenient to discharge the foul Humours lodged there by Emeticks, which will contribute to the first Intention as well as the second, as *Oxymel scillit, Vin. Benedict. Sal. Vitriol. &c.*

Evacuation by purging. When the Stomach is cleansed, it will be likewise requisite to make Evacuation by Purging, which may not

not only carry off the foul Humours in the Guts, but alſo make a Diſcharge of the Cacochymick Humours in the Blood. And ſince the Humours are commonly groſs and phlegmatick, purging Medicines ought to be proportionably ſtrong, and ſuch as are commonly reputed phlegmagogues; which by their acrimonious viſcous Parts, have a Congruity, as a proper *menſtruum*, to mix with more readily, and conſequently attenuate in order to their Diſcharge, the viſcous flegmatick Humours in the Blood. Forms proper on ſuch Occaſions may be as followeth, ℞ *rad. apii, petroſelin.* āa. ʒß. *fl. perſicor. geniſt. P.* i. *ſen.* ʒij. *ſal. Tart.* ℈ij. *agaric. in nodul. incluſ.* ʒiß. *zinzib.* ℈i. *coq. in aq. font ad* ʒviij. *Colat. add. Syr. e ſpin. Cervin.* ʒx. *pro duabus vicibus.* Or, ℞ *rad. ireos* ʒi. *cort. intern. Sambuc. Ebuli* āa. ʒß. *rad. fœnic. petroſelin.* āa. ʒij. *Summit. Centaur. min. agrimon. marrhub. alb.* āa. *M.* j. *flor. Sambuc. geniſt.* āa. *M. ſs. ſem. fœnic. carui.* āa. ʒiß. *fol. ſen.* ʒx. *Turbith. ſem. Carthami.* ʒiij. *f. Decoctio q. ſ. vini & aquæ, ad 3 part. ſtent in infuſione per Noctem, Mane colentur* ʒxij. ℞ *Colatur:* ʒiv. *ſyr. e ſpin. Cervin.* ʒj. *M. f. Hauſt. per aliquot dies reiterand.* which not only make a Diſcharge by Stool, but Urine. If ſtronger Purgatives are requiſite *Pil. ex duobus, Coch. extract. Rud.* may be given.

Alteratives ceſſary.

But as purging Medicines are to be frequently repeated to diſcharge the groſs Humours, ſo it will be convenient to make uſe of Alteratives, thoſe Days that intervene betwixt Purging. Alteratives convenient are ſuch as ſtrengthen the Spirits and Blood, and conſequently attenuate and promote the Digeſtion of the phlegmatick Humours, as *Sal. Volat. Oleoſ. Vin. Chalyb.* or *Chalyb.* Medicines mixed with Cordial and Antiſcorbutick Powders and Electuaries. If the Humour be thin, and the Tumour proceeds chiefly from the Weakneſs of the Veſſels, a Decoction of *Sarſaparil. Lign. Guajac.* &c.

may be convenient, but if the Humour be phlegmatick, ſuch Diet Drink would rather incraſſate the Humours by carrying the thinneſt part only off by Diaphoreſis, leaving the groſſer Phlegm undiluted.

The Third Intention. The third general Intention, which reſpects the Removal of the Tumour it ſelf, is to be effected by external Remedies, which are to be varyed according to the Time of the Tumour; as it is in its Beginning, State, or Declination.

What is to be applyed in the Beginning. In the Beginning, Aſtringents mixed with Diſcutients are proper; Aſtringents contracting and confirming the Tone of the Fibres, and Diſcutients likewiſe ſtrengthening the Parts, and alſo attenuating and rarifying the Humour. If the Tumour be ſmall, Spirit of Wine it ſelf may be ſufficient; but,

What Medicines are proper in the State. In the State, when the Tumour is large, ſtronger Diſcutients may be proper, as ℞ *ſummit. abſinth. abrotan. Origan. Calaminth. puleg. ſambuc. cham. Rut. ſalviæ.* āa. *M.* j. *Bac. Laur. Junip.* āa. ℥j. *ſem. fenic. Dauci. carui cymin.* āa. ℥ß. *contundantur ſimul & coq. in q. ſ. aq. ad dimid. conſumpt. Colatur. add. Vini q. ſ. f. Fotus.* The Volatile Effluvia of theſe Aromaticks not only attenuate and digeſt the groſs Humours, but diſpoſe them the better to go off by Sweat, Urine, or Stool, as internal Remedies ſhall give them Tendency, and promote their Excretion; and as they diſpoſe the Humours, the more eaſily to be diſcharged by attenuating them, ſo they have the Effects, though not ſo powerfully, of Alteratives internally, ſince they attenuate and alter the Craſis of the Humour, impregnating it with their Volatile Particles. After the Uſe of the Fomentation, the Part may be embrocated with *ol. Laurin. Rutæ* or *Caſtor.* applying the following Cataplaſm, ℞ *farin. fabar. hord.* āa. ℥vj. *ſum. Abſinth. Rut. Origan. abrotan.*

pulv.

pulv. āa. ℥ſs. *flor. Sambuc. cham. roſ. rubr.* āa. ℥ij. *Coq. in fotu prædict. ad Cataplaſm. Conſiſtentiam, addend. in fine aluminis & ſulph. Viv.* āa. ℥j. *ol. Rut. & mellis q. ſ.* If theſe Diſcutients are not ſtrong enough, the Fomentation and Cataplaſm may be made in *a Lixivium*, and the Part embrocated with the following, ℞ *Cin. braſſicæ* ℥ij. *Unguent. de Altheæ.* ℥iij. *ol. cham. chym.* ℥i. *M. Emp. de Min. cum Sapon.* or *Diaſulph.* are alſo proper Diſcutients in theſe Caſes.

What is to be done in the Declination.

As in the Beginning Aſtringents mixed with Diſcutients may be proper, to contract the Parts, and prevent them giving way to the Influx of Humours; ſo in the Declination they are requiſite, to contract the diſtended Fibres, whilſt they are ſtrengthened, by the volatile ſpirituous Parts of Diſcutients, for which purpoſe the following may be proper; ℞ *ſummit. Orig. Marjoran. flor. Aneth. Cham. roſ. rubr.* āa. *M.* j. *baluſt. Nuc. Cypreſs. calic. Gland.* āa. ℥j.ſs. *Calom. Aromat, Lign. aloes.* āa. ℥ij. *Coq. in Vino rubr. f. Fomentatio.*

What Bandage moſt proper, and when to be uſed.

But when all other external Means are ineffectual, a laced Stockin, or Trowze, or a laced Sleeve and Glove, anſwer the Intention; for if they be laced even, they make a regular Compreſſion of the Parts, and ſo prevent the Influx, or preſs out the Humours already congeſted. If the Tumour be large, the Stockin or Sleeve muſt be laced ſtreighter and ſtreighter by Degrees, as the Humours gradually give way to the Compreſſure; and Care muſt be taken, that the Lace be drawn equal, leſt an unequal Compreſſion of the Parts ſhould occaſion Tumour. One great Advantage in a laced Stockin or Sleeve is, that they may be uſed in any time of the Tumour, whether Beginning, State, or Declination, and anſwer the Intentions both of Aſtringents and Diſcutients; ſo that an œdematous Tumour may be prevented or removed only by the

Uſe of them, and internal Remedies to diſcharge the Humours out of the Maſs of Blood, and remove the Cacochymia; yet if they be unlaced, and the Parts fomented once a Day, it contributes the better to the removal of the Humour, ſince when attenuated, it is more eaſily preſſed out by lacing; beſides, the volatile parts of the Medicines help to corroborate and ſtrengthen the Fibres of the Parts, and eaſe the Parts alſo by opening the Pores, and giving a breathing to them by Tranſpiration. But in the Uſe of a laced Stockin, *&c.* Care muſt be taken, to leave off ſtreightening the Stockin, when the Part is reduced to its natural Bigneſs, otherwiſe by the ill uſe of it, the part will be emaciated.

CHAP. XVI.

Of a Scirrhus.

Deſcription. A *Scirrhus* is a hard Tumour immoveable, and of a dark red, or livid Colour, either altogether void of, or endowed with very little Senſe.

The Cauſes. The Cauſe, as of all other Tumours, is antecedent or conjunct. The Nature of the antecedent Cauſe will eaſily appear, if we conſider the Nature of the conjunct. And ſince in a *Scirrhus*, the Humour is not only ſo groſs and indigeſted as to be denyed a free Paſſage and Circulation through the capillary Veſſels, but hath required ſo great a Degree of Viſcocity and Thickneſs, as immediately to cauſe a total Obſtruction and Ten-

Tendency to Induration. It will be requiſite to examine, firſt, how this Humour comes by ſo great a Degree of Viſcocity; and, ſecondly, why that viſcous Phlegm is ſo apt to tend to Induration.

Viſcouſneſs of a Schirrhus Humour, whence.

And firſt for the Reaſon, how this Humour acquires ſo great a Degree of Viſcocity. We are to conſider, that thoſe Bodies that are ſubject to ſuch kind of Tumours are naturally of a phlegmatick, or rather melancholy Conſtitution or Habit of Body; ſo that the whole Oeconomy of the Humours are perverted and depraved in their Craſis and Diſpoſition, by which means the natural Ferments of the Parts are alſo vitiated and degenerate from a true natural Temperament. Now the Ferments of the Parts being thus depraved, it is impoſſible but that the Humours fermented and digeſted by them ſhould be perverted likewiſe, it being the Nature of all Ferments to convert the Juices they ferment into a Subſtance ſimilar and homogeneous to themſelves, whatever is made uſe of for the Suſtenance of thoſe Bodies, being ſtrongly impregnated with the Particles of thoſe Liquors that ferment it. And ſince in Bodies of a melancholy Habit and Diſpoſition, the Humours are not exalted to that degree of Digeſtion and Volatility, as in thoſe of a ſanguine or good Conſtitution, the Liquors aſſimilated by them muſt likewiſe be crude and indigeſted, and conſequently groſs and inclined to Viſcocity. But as long as they retain that degree of Digeſtion, which is homogeneous to the Body they belong to, they in reſpect of that Body may be ſaid to be natural, and anſwer all the Intentions of Nature, without occaſioning any Diſeaſe; the natural Structure of the Veſſels and Craſis of the Humours of the ſame Conſtitution being proportionable and ſuitable to one another. But when it happens, that the natural Fermentations of the Parts, and conſequently of the Humours they prepare,

are depreſſed below the natural pitch of that Body they belong to; Crudities may then be ſaid to be heaped up in that Body, by which, as they more or leſs abound, the Blood may be rendered too groſs and thick to paſs through the Capillaries of that Body, and ſo occaſion Tumour. And ſince Crudities in a Body whoſe natural pitch of Digeſtion is higher creates Phlegm, in melancholy Bodies where Digeſtion is naturally depreſſed, Crudities in thoſe Bodies muſt be more groſs and viſcid, as they are more crude and indigeſted.

Crudities different according to Conſtitutions.

But the Crudities in a melancholy Body are not only more crude and indigeſted than in others, but are likewiſe impregnated with ſomething, that inclines and diſpoſes them to Induration, which is likewiſe the Cauſe of their being more viſcous than ordinarily. The better to underſtand the Nature of this, we may conſider, that in all Bodies the Nature of the pancreatick Juice is acid, the Uſe of it being allowed to be to curdle the Chymus in the Duodenum, that the Chyle and excrementitious fæces might be ſeparated from each other. Now ſince all Acids, as well as other Qualities in Humours, the leſs they are digeſted, become the more crude; they muſt conſequently be more crude in Bodies of melancholy than of other Conſtitutions, ſince the natural pitch of Digeſtion is lower; and ſince Acids, the lower they are digeſted, and the more crude they are, are the nearer to an Auſtere; (as the Juice of the Apples, which by Digeſtion loſes its Auſterity as it becomes more acid;) and ſince likewiſe, it is the Nature of Auſteres to render them more inclinable to coagulate and grow viſcous, the Bodies they are contained in, than Acids, it will not only follow, that when Digeſtion is depreſſed in a melancholy Body, the pancreatick Juice comes nearer to an auſtere Quality, but that it will alſo by Conſequence communicate the Qua-

The Nature of Scirrhous Humours, further conſidered.

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lities it is endowed with to the Chyle in the *Duodenum*, by which means the *Chymus* ill digeſted in the Stomach, will be very little improved in the *Duodenum*. The fermentative and digeſtive Qualities of the Choler being depreſſed by the great Acidity, or rather Auſterity, of this pancreatick Juice; So that the worſt of Crudities are conveyed into the Maſs of Blood, being not only too thick and viſcid, but by the Tincture of this acid auſtere Juice, inclinable to coagulate and indurate.

The Nature of the conjunct Cauſe conſidered.

And thus much for the Nature of the antecedent Cauſe, from whence appears alſo the Nature of the conjunct; for when either by a Separation of the thinner Serum, or otherwiſe, this crude Humour is made thicker or chilled by accidental Cold, or any other Accident, ſo that it happens to want its free Paſſage, and obſtructs in the Veſſels; for want of the Agitation and Motion of Parts it had in Circulation to preſerve its Fluidity, it ſoon coagulates, and, as other groſs Bodies, preſently grows viſcid and tough; but in a greater degree proportionably to the Nature of the acid auſtere Qualities latent in it. Now whereas in other Tumours the Humour is impregnated with *volatile*, *ſaline*, ſulphureous Parts, which are predominant, and conſequently inclines them either to terminate in Diſcuſſion, or Suppuration; in this viſcid Matter, the volatile Salts or ſulphureous Parts are ſo much depreſſed, by this acid-auſtere Juice, that they are not able to exert themſelves, much leſs to divide and ſeparate the Parts of ſo tenacious and viſcid a Coagulum, or to bring them to Digeſtion; but the more thin and fluid Serum being ſeparated from the viſcous indigeſted Phlegm by Coagulation, it gradually evaporates, and accordingly the latter grows harder and more confirmed; ſo that at the laſt it forms a perfect Scirrhus.

The Differences. As to their Differences, they happen according to the Nature of the Humour, as it is more or less viscid, and is complicated with a Humour of another kind, as Choler, Phlegm, *&c.* and so a Scirrhus may happen to be *Oedematodes Phlegmonoides*, &c. They differ likewise, according to the time of them, as being either imperfect or confirmed. Or as it is an Original Disease of it self, or the Termination of another, as a Phlegmon, or Oedema, through ill Management the thinner Parts being evaporated, and the grosser Phlegm left behind.

The Diagnosticks. As to the Signs: A true Scirrhus is a hard Tumour, immoveable and of a dark red Colour, but livid, if the Humour be mixed with Phlegm. A true Scirrhus is likewise void of Pain, but an imperfect one sensible when pressed upon. If the Tumour be Original at the first it is no bigger than a Pea, but gradually increases. If it be the Event of a preceding Tumour, that will appear from the Accidents that attend it.

The Prognosticks. A Scirrhus confirmed, and without Sense, is incurable, the Induration being so great, that the Parts of Fluids cannot interpose to separate and dissolve them. But an imperfect Scirrhus is sometimes dissolved, but sometimes terminates in a Cancer. A Scirrhus proceeding from Phlegm, the Skin being without change of Colour, and being hard and large, with Hair growing on it, is incurable.

Intentions of Cure. In the Cure of a *Schirrhus* there are three Intentions: The First is a regular Diet. The Second is to discharge and cleanse the Blood of the antecedent Cause. The Third is a due Application of Medicines to the Part it self.

The First Intention. And first their Diet ought to consist of such things as are easy of Digestion, and not subject to be sowred by Acids in the Stomach and Guts, and their Drink such as may warm the Stomach, and correct Acidi-

ties.

ties. Exercise and Sleep are to be moderate, and the Air ought to be clear and temperate, and free from Passions of the Mind.

The second Intention.

The second Intention is performed by frequent Evacuatious by Purging, and making use of such Medicines as may digest and alter the peccant Humour in the Blood. And first if the Body be full of Humours, Bleeding may be convenient, otherwise to be avoided; the Body is to be kept open by Clysters, and the Humour discharged by convenient Purges, as *Decoct. sennæ Geronis*, *Epithym. pil. de Lap. Lazul. de Agaric. aggregativ.* &c. which are frequently to be repeated, that by quickening the Peristaltick Motion of the Intestines, they may make a quicker Discharge of that slimy Mucilage that naturally lubricates them, and so drain the Blood of superfluous Phlegm. Those Days that are vacant betwixt Purging, alterative Medicines are to be given, which may not only strengthen Digestion in the Stomach, and correct the Acidities of the Pancreatick Juice, but also imbibe and correct the Acidities of the Blood, and promote the Digestion of the whole Mass of Humours, by strengthening the Spirits, and promoting the natural Ferment of the Blood, as *Sal. volat. oleos. sp. Sal. Arm. cum Gumm. Ammon.* or *Milleped.* which may be taken in a convenient Julep of *Aq. Absinth. Gent. Comp. Aq. Mirab.* &c. As also Electuaries which are Stomachick and Antiscorbutick with Chalybeates and proper Antiscorbutick Powders and Species; but these belonging more to a Physical than Chirurgical Discourse, I shall proceed to

The third Intention.

The third Intention which respects the Tumour it self. Where Repellents are useless, and rather indurate and harden such gross Humours, Emollients are likewise to be cautiously used alone, lest the Tumour tend to a Cancer, the Tumour being softened without discussing. Too strong Discutients

are

are likewiſe dangerous, leſt they increaſe the Tumour by conſuming the thin, and leaving the groſs Part to indurate; they are therefore to be proportioned to the Conſtitution of the Patient, and the time of the Tumour: tender Bodies require milder Diſcutients, and thoſe in ſoft Parts are more eaſily diſſolved than thoſe that are on the Ligaments and Tendons.

Where mild Reſolvents are convenient, the following may be made uſe of. *Adeps Gallin. ol. amyg. dulc. lil. adeps Anſeris, ſevum hircin vitulin. vaccin. axung. porcin. vet. rad. Althæa lil. ſem. fænug. lini,* &c. or where ſtronger are requiſite, *Rad. cucum. agreſt. bryon. ſigil. Solomon. Ireos. pix naval. liquid. Terebinth. Gum. Galban. Ammoniac. Bdellium Opoponax,* &c. of which convenient Topicks may be compos'd; as ℞ *rad. Althæa lil.* āa. ʒiv. *rad. cucum. agreſt.* ʒij. *ſum. cicutæ M.* ij. *ſum. Majoran. M.* j. *fl. melil. ſambuc.* āa *p.* j. *ſem. lini, fænugræc. Althæa* āa ʒj. *coq. in q. ſ. Aq. font. colat. add. acet. parum,* which being mixed with proper Diſſolvents, hath a very penetrating Quality, and contributes to the diſſolving groſs Humours.

In tender Bodies, and the Beginning of the Tumour, the following Cerot is proper. ℞ *rad. Althæa* ℔ß. *rad. lil.* ʒiij. *ſem. lil. & fænugræc.* āa ʒj. *coq. in Brodio ex capite & pedibus vervecin. deinde piſtentur. & trajiciantur per ſetaceum, addend. ol. Cham. lil.* āa ʒij. *æſyp.* ʒj. ß. *Emp. Diachyl. ſimp. cum ol. lil. ſolut.* ʒiij. *ceræ alb. q. ſ. f. Cerot.*

If the *Scirrhus* be perfect, and amongſt the Tendons, Fumes of *Acetum,* or Spirit of Wine ſprinkled upon a hot Stone, will be proper, rubbing the Part, and applying the following *Cerot.* ℞. *Gum. Galban. Ammoniac. Bdellium in acet. ſolut.* āa. ʒj. *Styrac. Liq.* ʒj. *Diachyl mag.* ʒij. *ol. lil. axung. Anſer* āa ʒj. *cerot. æſypat.* ʒij. *liqueſcant omnia ſimul & cum ceræ alb. q. ſ. f. Cerot. molle.*

Thus

Thus much of Medicines proper to be applyed to the Tumour it ſelf; but how they affect the Tumour, and help to diſcuſs and diſſolve the Matter of the Tumour, ſince it will ſufficiently appear from what hath been ſaid of the Nature and Manner of Diſcuſſion, in the Chapter of Tumours in General, we ſhall not need to repeat it here.

CHAP. XVII.

Of Warts and Corns.

A Wart is a fungous Excreſcence, thruſt out from the Extremities of ſmall Veſſels in the Surface of the Cutis, occaſioned by a Tumour in the Glands of the Skin, which grow ſpongy, and increaſe after the manner of a *Sarcoma*. Their Surface is ſometimes ſmooth and ſometimes ragged, and chapped. Thoſe which riſe from a broad Baſis are called *Verrucæ Seſſiles*; others riſing from ſmall Roots enlarge themſelves, and form a penſile Tumour called *Acrochordon*. *Deſcription of Warts.*

A Corn is a *Scirrhus* Tumour on the Surface of the Cutis, formed by a Condenſation of that Serum which is ſeparated by the Glands of the Skin, which being too thick and viſcous, condenſes in the excretory Veſſels of the Glands, and is fed and increaſed by the Addition of freſh Matter from the Gland that lyes under it, and from whence it roſe: as it increaſes it is forc'd into the Skin by external Preſſure, and ſo becomes painful; as alſo Pain is occaſioned by the Obſtruction of that Humour which ought *Of Corns, and their Cauſe.*

ought to be discharged, the Pores being crouded with it, and consequently the nervous *Papillæ* compress'd by it. The Corn seems to grow from the *Cuticula* inward, because the Apposition of Matter which increaseth it is from the Vessels that lye under it, but that they grow from the Vessels below, is evident, since when they are cut away externally, they grow again from their first Origin. They are sometimes soft, and sometimes hard, according to the Quantity of viscous Matter they are supplyed with, and its Indisposition to indurate.

Diagnosticks. Both Warts and Corns are so apparent, that they want no Tokens or Signs to discover them.

Prognosticks. Warts frequently fall off themselves; but Corns are seldom cured, but are subject to return again.

Cure of Warts. Remedies commonly applied to Warts are, the Juice of *Celandine*, *Marygolds*, or *Spurges*, or they may be rubbed with *ol. Vitriol.* or *Sulphuris*, which will gradually consume them; but the quickest way of destroying them is by Ligature, or the Caustick Stone.

of Corns. Corns are cured by paring them off, and applying red soft Wax, or ℞ *picis naval.* ℥j. *Emplast. Diachyl. mag.* ʒiij. *Gum. galb. acet. solut.* ℥ß. *Salis Ammoniac.* ℈j. *M.* or ℞ *Alum. Vit. Ungar. Auripigment.* ãa *p. æq. pulver. & cum acet. misc.*

CHAP.

CHAP. XVIII.

Of a Cancer.

Description.

A *Cancer* is a round Tumour, unequally hard, of a livid or brown Colour, with exquisite pricking Pain; and sometimes Inflammation, the Veins in the Surface of the Skin being turgid.

The Cause.

As for the Reason of a Cancer, since there seems to be an Affinity betwixt it and a *Scirrhus*, they being frequently complicated, and a *Scirrhus* often degenerating into a *Cancer*, as an *Oedema* does into a *Scirrhus*; it may not be amiss to consider the Affinity likewise betwixt the Causes of a *Scirrhus*, and the Cause of a *Cancer*. From what hath been said therefore of the Cause of a *Scirrhus*, it appears, that the viscous Matter which occasions it, proceeds from Crudities impregnated with the Pancreatick Juice, which, for want of being digested to its natural Pitch, is a crude acid, and so comes nearer to the Nature of an austere, for which Reason we call it acid-austere. Now as this mixed with Crudities makes them viscous, and is the Result of melancholly Humours depressed below their natural Pitch of Digestion; so we suppose, that when this acid-austere Juice is conveyed into the Blood, and hath circulated sometime; by frequently passing through the Ferment of the Spleen and Liver, being farther digested, and mixed with the Choler in the Substance of the Liver, it acquires also hot and sharp Parts; or the Choler composed partly of this indigested Ingredient, is too gross to be separated altogether by its proper Vessels in the Liver, and so flows back along with the

The Affinity betwixt the Cause of a Scirrhus, and of a Cancer, considered.

the venal Blood, and is mixed with the whole Maſs; and this crude auſtere cholerick Humour we take to be the antecedent Cauſe of a Cancer, which being the Cauſe of a Tumour, by obſtructing the capillary Veſſels, when it is lodged ſometime in the Part, the cholerick Particles overpowering the cruder Particles, get the Predominancy, and acquire a greater Degree of Acrimony, ſo that the conjunct Cauſe of a Cancer is a crude auſtere Phlegm mixed with an acrid crude Choler, grown virulent by its Tendency towards Corruption; but the Nature of this Humour differs according to the different Temper of the Patient being more or leſs cholerick or phlegmatick, and ſo of leſs or greater Affinity with a *Scirrhus*.

Differences. *Cancers* differ either as they are ulcerated or not. Thoſe which are ulcerated, are either external with Tumour, or latent, as in the Palate *Anus*, &c. Some that are not apparent are alſo without Ulceration, being hard and moveable in the Glands of the Breaſt, being partly ſcirrhous; others are hard and fixed to the Bones. The milder ſort of Cancers, which are partly ſcirrhous, increaſe ſlowly, and are not very painful. Cancers which are ulcerated, ſometimes bleed, from the Extremities of Veſſels in the *Fungus*. They alſo differ according to the Difference of the Part affected, and as they ariſe from ſmall Tubercles, or an Excreſcence; from whence it ſpreads into the adjacent Parts with looſe *Fungus*, rotting and corrupting the Bones under them. Cancers in the *Uterus* or *Podex* alſo differ as they effect the internal or external Parts. When they affect the Bottom of the *Uterus*, or the upper Part of the *Rectum*, they do not appear till they have made a conſiderable Progreſs, occaſioning a *procidentia Uteri* or *Ani*, and a Suppreſſion of Urine, with great Difficulty of going to Stool. If it happen

pen in the bottom of the *Uterus*, it is attended with a Fever, Nauſea, and Anxiety of Mind.

As for the Diagnoſticks, whether they begin with a Tubercle or Excreſcence it is very ſmall at the firſt. They increaſe according to the Nature of the Humour, quick or ſlow. If the Humour be very corroſive, they are very painful, attended with a Phlegmon or Eryſipelas; under the Inflammation they are ſoft, but if open'd, only iſſue out a Gleet, which dryes up again when the Pain is aſſwaged. Sometimes a Cancer is attended with an œdematous Tumour, the whole reſembling a Tumour by Congeſtion, of a pale livid Colour mixed with brown, the Veins in the Skin being large and turgid; ſo that the Tumour and the Veins being compared to a Crab and its Claws, they thence derived the Name of *Cancer*. The Swelling is made up of a great many Tubercles, which make the Tumour large and unequal: at laſt they break and ulcerate with hard painful Lips thruſt out, and diſcharge a ſtinking Gleet. *The Diagnoſticks.*

A Cancer is generally incurable, the corroſive malignant Quality of the Humours, being neither check'd with internal nor external Medicines. Thoſe that are ſuperficial, or proceed partly from an external Cauſe, as a Bruiſe, *&c.* may be removed by Knife or actual Cautery; but thoſe that proceed from an internal corroſive Humour, tho' removed by Knife or Cautery, are dangerous, and if cured, are hard to cicatrize, eſpecially thoſe in the Mouth, or internal Parts. *The Prognoſticks.*

In the Cure there are three Intentions. Firſt, the making of good Blood. Secondly, The correcting and diſcharging of the peccant Humour in the Blood. Thirdly, The preventing the Increaſe and diſpoſing it to Diſcuſſion.

The firſt Intention is anſwered, by obſerving a ſtrict Regimen in Diet, which is to conſiſt of ſuch things

things as are eaſy of Digeſtion; and avoiding all ſuch things as are ſalt or ſharp, or apt to breed Crudities in the Stomach.

The ſecond Intention. The ſecond Intention is next to be purſued: And firſt if there be a *Plethora*, or Hæmorrhoids or Menſtrua be ſtopp'd, Bleeding is convenient; and a Clyſter to make the Body ſoluble; after which the Humours may be diſcharged with lenient Purges, as *Decoct. Epyth. ſen. Geron.* &c. giving the following Decoction thrice a Day. ℞. *rad. & fol. Caryophyll. chelidon. maj. pimpinel. Gent. Plantag.* āa. *M.* j. *coq. ſimul in Aq. part.* ij. *Vin. part.* j. *ad.* ℔iij. to be ſweeten'd with Sugar, which conſiſting of Bitters and Aſtringents, the bitter Qualities will help to correct the Pancreatick Juice, and the Aſtringents contribute to take off the Edges, and alter the Nature of acid and ſharp corroſive Parts, by imbibing and involving of them betwixt their Parts: Or ℞ *rad. ſcrophular. maj. tapſi. barb.* āa ℥ij. *filipend. Ceterach. herb. Robert. Agrimon. tormentil. ſcabioſ. linariæ* āa *M.* j. *flor. ſambuc. Anth.* āa *p.* j. *ſem. urt.* ℥ij. *f. Decoct. Colatur. add. Syr. de pom. Alterant. & de ſuc. Citri.* āa. *q. ſ.* the Ingredients of which being bitteriſh, aſtringent, and aromatick, the bitteriſh aromatick Qualities correct the acid acrid Parcles of the Humours, and the Aſtringency involves and imbibes the hot corroſive Parts of the Blood, and by that means dulls their corroſive Qualities. The following Electuary is accounted alſo a ſpecifick ℞. *pulv. ranar. Limac. præp.* āa ℥ß. *pulv. canc. fluviat.* ℥j. *os de corde Cervi* ℥j. *cort. citri cond.* ℥j. *Conſ. Borag. Lujul,* āa ℥ij. *Syr. de ſuc. citri Caryoph.* āa *q. ſ. f. Elect. cap. q. N. Caſtinac. mane & veſperi, ſuperbibend. hauſt. decoct. ſupra deſcript.* which alſo imbibe and cool the acid acrid Parts of the Blood. Emulſions alſo and Opiates are convenient to allay the Heat of the Humours, and eaſe Pain; for Opiates not only act as Anodynes, by their ſomniferous Quali-

ties, but by their Bitterneſs correct Acidities, and by their anodyne Qualities alſo take off and dull the Edges of corroſive Humours, and help them to diſcharge themſelves by Tranſpiration; for when their corroſive Qualities are dulled, they no longer corrugate and contract the Pores, by affecting the nervous Papillæ, but paſs off freely, and without being offenſive, ſo long as the opiate Qualities continue their Effects.

The Third Intention.

But to proceed to the third Intention, which is to reſtrain the growth of the Tumour, and gently to diſcuſs it.

Repellents, when to be uſed.

And firſt the Increaſe of the Tumour is to be reſtrained by the Uſe of Repellents, but ſuch as are mild, leſt they thicken, and make the Humour too groſs for Diſcuſſion, as *Lactuc. portulac. plantag. Umbelic. Ven. ſolan. ſemperviv. Unguent. alb. Nutrit. Populeon. Tutiæ. de plumb. uſt.* or *Lamina* of beaten Lead or Gold; which Medicines are Repellents by Accident, gently abating the Heat of the Humours, and contracting the Parts by their cooling Qualities, and as they are anodyne, and eaſe Pain: How ſuch kind of Repellents produce their Effects, I have more fully anſwered above in the Chapter of Tumours in General.

Beſides the forementioned Applications, Oyl of Frogs baked with Butter in their Mouths, is commended, and *aq. Sperm. Ranar.* with a Solution of *Sacchar. Saturni*, dipping Cloths in it, which are to be renewed as often as dry. But in the Winter; when there is Danger of getting Cold by opening the Part often. ℞ *ranar. virid.* ℥iij. *Cancror. fluviat. combuſt.* ℥ß. *Lytharg. auri* ℥ij. *plumb. uſt. Tutiæ præp.* ãa. ℥ij. *ceruſs.* ℥vj. *ſuc. ſolan. plantag.* ãa. ℥vj. *aceti* ℥ij. *ol. ranar. & unguent. popul.* ãa. ℥iij. *ſev. vitul.* ℥iv. *ceræ. q. ſ. f. cerot.* Or, ℞ *ſem. papaver. alb.* ℥j. *ſem. hyoſci.* ℥ß. *Opii.* ℥j. *Gum. Arab.*

Arab. ʒß. *pulverizentur. ol. roſ. myrt.* āa. ʒij. *ceræ q. ſ. f. Cerot.* The former abates the Pain by cooling the Part, and the latter by its opiate Qualities; but if the Pain be violent, the Quantity of Opium may be doubled; or the Part may be fomented with a Decoction of Poppy Heads, tops of Melilot and Roſe Leaves, applying the following Unguent. ℞ *Theriac. Vet.* ʒj. *ſuc. cancr. fluviat.* ʒß. *ſuc. Lactuc. & ol. Roſ.* āa. ʒj.ß. *Vitel. ovor. ſub. cinerib. coct.* №. ij. *camph.* ʒß. *Agitentur in Mortareo plumb.* which are both anodyne and cooling.

Diſcutients, when to be uſed.

When the Uſe of Repellents, which act thus by accident, and gently, have been continued as long as is convenient to reſtrain the Growth of the Tumour, whilſt internal Remedies endeavour to reſtore the Blood to its natural Craſis, and take away the *fomes Morbi.* It will be then convenient to make uſe of gentle Diſcutients, as, *Agrimon. Ceterach. Lens. paluſt. ſcabioſ. Stramonium, ſuc. Coriandr. Limac. ranarum Cancr. fluviat. Raiſins of the Sun* ſtoned and beaten into a Cataplaſm, with *Rue* and *Garden Nightſhade.*

Extirpation, when requiſite.

But if the Tumour notwithſtanding tend to ulcerate, it may be convenient to extirpate it by Knife, if it be looſe, and in a Place where it may be done without Danger. In doing of which there will be hopes of better Succeſs, if the Patient be ſtrong, and of a tolerable Conſtitution, and before the Menſtrua ceaſe, and likewiſe if the Cancer be looſe, and no painful Glands under the Axilla; or if it proceed from a Bruiſe or ſome other Accident. As for the time of the Year, the Spring or Autumn are moſt proper, the Spirits being neither exhauſted with exceſſive Heat, nor depreſſed with extream Cold.

The manner of Extirpation, and what is to be done afterwards.

In order to Extirpation, as in other Amputations, good Rowlers, Compreſſes, Reſtrictives and Defen-

Defensatives are to be provided; and cauterizing Irons ready heated in some part of the Room. Then the Patient being placed in a convenient Light, the Operator is to pull the Breast to him with one Hand, whilst he cuts it off with the other; and the Flux of Blood is to be stopped with *pulv. Galen.* but if there be any part of a cancerous Gland left behind, it is to be consumed by a cauterizing Iron; and the large Vessels themselves may also be restrained from bleeding by the cauterizing Button, if the restrictive Powder prove ineffectual; Escharoticks being improper, especially in this Case, since they will spread and corrode the adjacent Parts, and cause Pain. But whether actual Cautery or Restringents are applyed, the Patient being dressed up with proper Defensatives, Compress and Bandage, it will be convenient to place the Patient in Bed, and give him an anodyne Draught to ease the Pain, and quiet the Ferment and Heat of the Humours.

The second or third Day it is to be dressed with Digestives, as, *Terebinth. cum Vitel. ov.* or, ℞ *Terebinth. Lot.* ʒiij. *syr. de ros. sic.* ʒj. ß. *suc. plantag. solan.* āa. ʒij. *suc. apii* ʒj. *coq. ad. demid. suc. Consumpt. deinde add. farin. hord. ciceris* āa. ʒß. *Croci* ℈ij. *Vitel. ovi* N°. j. *M.* If there be Pain, the following Anodyne may be applyed over it, ℞. *Muc. rad. & fol. Althæ malv. violar.* āa. ℔j. *farin. trit.* ʒij. *ol. Rosar.* ʒiij. *coq. ad. consistentiam Cataplasm. addendo sub fine coct. vitel. ovor.* N°. ij. *Croci.* ℈j. *M.* but if there be no Pain, *Emp. e bol.* over all is sufficient. When it is sufficiently digested, deterge incarn and cicatrize as in the common Intentions in Wounds. Yet the Body is still to be kept soluble with Clysters and Purges, to be repeated as Occasion requires, and Fontanels are to be made to drain the Blood of any ill disposed Humours

Digestives, when proper.

that may remain and hinder the part from cicatrizing.

If in cicatrizing the Lips grow callous, they are to be deſtroyed with actual Cautery, before it affects the muſculous Fleſh. To promote cicatrizing of theſe Ulcers the following Applications are commended, ℞. *ol. Roſ. ceræ alb.* āa. ℥. ſs. *ſuc. granator. & ſolani* āa. ℥ij. *ceruſs lot.* ℥ij. *plumb. uſt. & tutiæ pulv.* āa. ℥ſs. *Thuris Maſtich.* āa. ʒij. *M. f. Unguent. S. A.* or, ℞ *Unguent. Tutiæ Vigonis* ℥iv. *Theriac. Venet.* ℥j. *Sacchar. Saturn.* ʒi. *Suc. Geran. q. ſ. in Mortar. plumb. M.*

If a cancerous Ulcer be in the Mouth, it is either to be deſtroyed with actual Cautery, or treated with palliating Medicines, according to the Method already propoſed.

CHAP.

CHAP. XIX.

Of Noli me tangere.

Description.

NOLI me tangere is a ſmall round acuminated Tubercle, without much Pain, except it be touched or rubbed, or exaſperated by Applications. This Tumour ſometimes happens in the Face and Lips, as well as other parts of the Body. It is ſmall, and of a blewiſh Colour, without Inflammation or Hardneſs in the parts about it.

The Cure.

In the Cure of this Diſeaſe purging is neceſſary, and may be improved by adding a convenient Quantity of Calomel or Mercur. Dulcis. Emulſions, and ſuch things as temper the Humours, are alſo convenient, as in a Cancer. After which the Tumour being conſumed, by actual or potential Cautery, the Eſchar is to be dreſſed with Digeſtives, as *Unguent. Baſil. mag.* then deterge with *Merc. præcip. rubr.* and incarn and cicatrize with *Unguent. Tutiæ*, confirming the *Cicatrix* with a few Drops of *Tinct. Vitriol. Dulc. in aq. rub.*

CHAP. XX.

Of wateriſh Tumours.

Difference and Nature of wateriſh Tumours.



Wateriſh or hydropical Tumours are the Effect of the Serum of the Blood either diſtending the Veſſels, or extravaſated; and according to the part affected have different Denominations. If it be diſcharged into the Cavity of the Belly, it is called *Aſcites*; in the *Thorax*, *Hydrops Pectoris*; in the Head, *Hydrocephalus*; betwixt the Skin and the Fleſh, or in the Interſtices of the Muſcles, *Anaſarca*; in the *Scrotum*, *Hydrocele*. Wateriſh Tumours differ from œdematous, the Humour being thinner, and more apt to pit, but ſooner filled up again, when pitted; beſides, the Skin is pellucid, and gliſters, and the Tumour in ſome meaſure tranſparent, whereas in an *Oedema* the Skin varies not from its natural Colour. *Aſcites* differs from a *Tympanites*; in the firſt the Tumour being heavy, and the Water ſwagging about in the Belly, but in a *Tympanum*, the Tumour is light, equal and hard.

The Cauſe, partly from the Fault of the Veſſels.

As to the Cauſes of wateriſh Tumours, they proceed partly from the Fault of the Veſſels, and partly from the Fault of the Humours; the Veſſels are in Fault, when by the natural Weakneſs of the Viſcera they are not able to concoct or aſſimilate the natural Juices of the Body; and firſt the Stomach may concur, when by its Weakneſs the Chymus is not ſufficiently digeſted, but ſlips thro' it imperfect; a wateriſh Humour inſtead of Chyle being

being tranſmitted through the Lacteals into the Blood. Or, ſecondly, the Viſcera which are concerned in Sanguification may be in Fault, when by their Weakneſs they are not able to aſſimilate and digeſt the Chyle tranſmitted from the Stomach and Inteſtins, by which means a great Quantity of Serum is heap'd up inſtead of Blood. Or, thirdly, the Kidneys may occaſion a greater Quantity of Serum to be gathered and retained, when they are deficient in ſeparating a ſufficient Quantity of Serum by Urine. And, fourthly, when by the Weakneſs of the whole a ſufficient Quantity is not forced out by the Pores of the Skin. Fifthly, when the Veſſels through Weakneſs diſcharge it into any Cavity in the Body, or giving way to the Preſſure of Humours, encourage a Tumour by their Diſtenſion, whilſt a freſh Quantity of Serum is admitted into the Veſſels above, to ſupply the want of that ſettled in any part, or extravaſated into a particular Cavity. Laſtly, the Veſſels contribute, when by large Extravaſations of Blood the Veſſels are empty, and admit too great a Quantity of Serum.

Partly from the Faults of the Humours.

The Humours themſelves are in fault, and occaſion a greater Quantity of Serum, than natural, to be collected in the Body, when they are ſo languid, that they are not able to ſupply the parts with proper Nouriſhment, to ſtrengthen their Fibres, that they may retain what they ought, or expel what is ſuperfluous, ſo that the Food too ſoon paſſes through the Stomach, and the weak Veſſels in other Parts are eaſily diſtended or broke by the Preſſure of their Contents. Secondly, The Humours are in fault, when they are not able to ſupply the Ferments of the Parts with due Matter for recruiting and continuing of them, that the parts might duly perform their Office, either in digeſting or ſanguify-

ing. Thirdly, the Humours are in fault, when by their depraved Qualities they impregnate the Chyle with their Particles, ſo that it becomes unfit for Sanguification, and therefore remains in the Form of Serum. Fourthly, The Humours are in fault, when they are too groſs to be ſeparated in the Kidneys, or to paſs through the Pores of the Skin. Fifthly, When by their ſuperfluous Bulk or Quantity they crowd the Veſſels, and being forced upon ſome weak Veſſels, they either diſtend them and cauſe Tumour, or break them and force an Extravaſation.

The Diagnoſticks. As to the Diagnoſticks, if they are external, and near the Skin, it appears of a thin pellucid Colour; but if they are ſo deep as not to affect the Skin, yet by ſhaking the part you may perceive the Humour undulate. Theſe ſort of Tumours are without any conſiderable Pain.

The Prognoſticks. Wateriſh Tumours are not mortal, unleſs they obſtruct or taint the Viſcera, for which reaſon internal Tumours are likewiſe more or leſs dangerous, according to the Nobleneſs of the part affected.

Intentions of Cure. In the Cure there are four Intentions. The firſt reſpects the Regimen in Diet, and the reſt of the Non-naturals. The ſecond is, To diſcharge the ſuperfluous Serum by Stool, Urine, or Tranſpiration. The third is, To ſtrengthen the Veſſels and Humours, and reſtore them to their natural Tone and Craſis. The fourth is, To promote the Diſcharge of the Humour out of the part, which is to be done by Diſcutients, drying Medicines, or Apertion.

The firſt Intention. And firſt, Their Diet ought to be moderate in Quantity, and eaſy of Digeſtion, yet very ſtrengthening; as ſtrong Broths, with warm and cordial Spices. Their Drink likewiſe moderate in Quantity,

tity, but cordial and ſtrengthening; moderate in Quantity, becauſe the Veſſels are already too much crowded.

The ſecond Intention is to be performed by Purging, with ſuch Medicines as may make a good Diſcharge, which are therefore ſtrong, as *Elaterium Gambug. Sambucin. &c.* But this, as well as the third Intention, chiefly belonging to the Phyſitian, I ſhall not inſiſt upon them in a Chyrurgical Diſcourſe, but proceed to *The ſecond and third Intention.*

The fourth Intention, which is to promote the Diſcharge of the Humour out of the Part by Diſcutients, as, ℞ *Sum. Abrotan. Abſinth. Origan. Calaminth. Majoran.* āa. *M.* ij. *flor. Sambuc. Cham. aneth. roſ. rubr.* āa. *M.* j. *Bac. Laur. Junip.* āa. ʒij. *coq. in q. ſ. aq. font. f. Decoct. pro fotu.* Or, ℞ *Sal. Nitri* ʒv. *piper. alb.* ʒvj. *Euphorb.* ʒij. *ol. Laurin.* ʒvj. *M.* with which the Parts may be embrocated, or the following Cerot may be applied, ℞ *Sem. aniſ. Cumin. bac. myrt. Lauri.* āa. ʒſs. *ſuc. Ebuli.* ʒiv. *ol. Rut. & ceræ q. ſ. f. Cerot.* If by the Uſe of theſe and internal Medicines the Event be not ſucceſsful, it will be reaſonable to proceed to Apertion. The manner of performing which, I ſhall hereafter lay down more fully: I ſhall here only in ſhort repreſent, that the Patient being laid upon one ſide, the Apertion is to be made about three Fingers breadth below the Navel, on the upper ſide; and when a ſufficient Quantity of Serum is let out, either a Silver Canula is to be inſerted, and placed in the Apertion, or it may be dreſſed with a pledgit of *Baſilic.* and *Emplaſtr. ad herniam* over all, with convenient Compreſs and Bandage, till it ſhall be thought fit to make a new Diſcharge; and after a ſufficient Diſcharge, the ſame Method in dreſſing the Part may be repeated, till the whole Serum in the Cavity of the Abdomen be diſcharg'd. *The fourth Intention.*

In

Bandage ſerviceable. In anaſarcous Tumours of the Legs, Arms or Thighs, good Bandage is very ſerviceable, which may be made with a laced Stockin, Sleeve or Trowze, by which means the Humours are preſſed back into the Veſſels, and diſpoſed, as they circulate, to be carryed off otherwiſe by internal Medicines. Bandage is alſo propoſed as uſeful in an Aſcites, to prevent the ſudden Tumour of the Abdomen, but in this Caſe it ſeems to be leſs convenient, for ſince the Largeneſs of the Tumour, by a greater Quantity of Humours collected within, only makes a greater Preſſure upon the Viſcera, and the ſanguiferous Veſſels and Diaphragma, and ſo proves fatal; that Preſſure is ſooner made when the Parts have leſs Liberty of extending themſelves.

Of Hydrocele.

Deſcription. *Hydrocele* is a wateriſh Tumour of the Scrotum. It is either complicated with an Aſcites or Anaſarca, or ſimple and original. When it is joyned with an Aſcites, there is commonly an Anaſarca of the lower part of the Belly complicated with it. If it is an Original Tumour of the Part, it is either without the Tunica Vaginalis affecting the whole Scrotum; or contained within that Tunicle, and then the Tumour may happen to be on one ſide and not the other; but if both ſides be affected, the Tumours are diſtinct.

The Cauſe. As to the Cauſe of an Hydrocele, if it be complicated with a Dropſie, it proceeds from the ſame Cauſes, the peritonæum only being relaxed to permit the Serum to fall into the Scrotum; but if it be Original, it commonly proceeds from an Extravaſation of Serum, occaſioned by the Rupture of ſome Veſſels,

Veſſels, by a Bruiſe, or Fall, or ſome other Accident.

As to the Diagnoſticks. A Hydrocele, complicated with an Anaſarca, is a bright, ſoft, and thick Tumour of the Scrotum, eaſily yielding to Impreſſion, attended with a Tumour of the *præputium*. A ſimple *Hernia aquoſa* fills the whole Scrotum like a Bladder. If the Tumour be within the *Tunica Vaginalis*, the Scrotum is ſwelled proportionably to the Bigneſs of that Tumour, and being not extended to its full Scope, is in ſome Meaſure wrinkled. It is diſtinguiſhed from a *Hernia Inteſtinalis* by preſſing the Production with your Finger, whilſt the Patient coughs; for if it be an inteſtinal Rupture, ſomething will preſs againſt your Finger like Wind. *Diagnoſticks.*

If a Hydrocele be complicated with a Dropſie, it cannot be cured till the Dropſy is cured. If it proceed from an external Cauſe, it is eaſily cured; or if the Conſtitution be good. If it be difficult to cure, it may be let out as often as it is full, without Danger. *The Prognoſticks.*

In the Cure of this, the ſame Rules in Diet are to be obſerved, as in the Chapter above propoſed, and the ſame external Applications, only a Bag-Truſs is neceſſary to ſuſtain the Parts, leſt by the Weight of the Humour the Tumour ſhould increaſe, the Weight of the Serum contained extending the Membranes, and making way for more Water. If the Tumour will not give way to Diſcutients, but tends to Suppuration, it is to be promoted and treated accordingly. If there be much Water in the Scrotum, it is to be diſcharged by Apertion; but if the whole Scrotum be anaſarcous, it may be relieved by Scarification or a Seton; or if the whole Body be anaſarcous, the Seton is to be made tranſverſe in the moſt depending Part, and kept *The Cure.* *Apertion, when requiſite.*

kept open till all the Humour is diſcharged, the Part being cheriſhed with Stupes wrung out of a Decoction of *Sam. Abſinth. Majoram. fl. Cham. roſ. rubr. baluſt. bac. myrt. N. Cypreſs, &c.* boyled in Wine, by which the Temper of the Part will be preſerved, and the Danger of Mortification prevented. But if notwithſtanding there be any Appearance of Mortification, the Seton is to be pulled out, that the Flux of thoſe ſharp Humours may be ſtopped.

In a *Hernia aquoſa*, if the Water be contained in the Scrotum, it is to be let out by Inciſion, but not before a conſiderable Quantity of Water be collected, leſt in making Inciſion, the Scrotum and Teſticle being too cloſe, the Teſticles ſhould be hurt. When Inciſion is to be made, the Patient being Placed in a good Light, the Scrotum is to be held ſteddy, and the Water to be preſſed down to keep the Scrotum tenſe, and more diſtant from the Teſticles; then Inciſion is to be made by Puncture in the moſt depending Part, and large enough to inſert a Canula; which being done, and all the Water drawn out, a pledgit of *Baſilicon* is to be applyed to the Inciſion, and a ſticking Plaiſter over it to retain the Pledgit, then apply a Stupe wrung out of an Aſtringent Decoction to contract the Scrotum, and a Bag-Truſs to keep the Dreſſings cloſe, by which means the Puncture will in a few Days be healed, and the Part contracted; yet it will be ſtill neceſſary to apply *Emplaſt. Cæſaris*, or ſome other Aſtringent Plaiſter, and a leſs Truſs to prevent a Return of the Tumour.

If the Water be contained in the *Tunica Vaginalis*, or a proper *Cyſtis*, as ſometimes it happens, a longitudinal Inciſion is to be made in the Scrotum, that you may have more room to diſcharge the Water in the *Tunica Vaginalis*, or Cyſtis, and may with

with more Conveniency apply proper Medicines to the Parts. When theſe Operations are performed, the Patient ought to be of a tolerable Conſtitution, they being ſubject to Inflammation and Fever, occaſioned by the conſtant Pain, and to the Cholick, by Conſent of the Nerves. To relieve theſe Accidents not only Bleeding and Clyſters are requiſite, but alſo Lenients and Anodynes externally; and ſuch Fomentations as may prevent Mortification, by preſerving the natural Temper of the Part.

Of a Hydrocephalus.

Deſcription. *Hydrocephalus* is a watry Tumour of the Head, either betwixt the Cranium and the Scalp, or betwixt the Cranium and *Dura Mater*, or betwixt the two Meninges.

The Cauſe. The Cauſe is an Extravaſation of Serum proceeding from a Weakneſs of the Veſſels, or the Quantity and Qualities of the Serum; the former too eaſily giving way to the Preſſure of the Humour, and the latter either diſtending the Veſſels till they burſt, or by their glutinous Parts clog up the Glands, and diſtend ſome Veſſel or another till it burſts, which is very probable, ſince a glutinous Matter is frequently found about the Veſſels under the Baſis of the Brain, and the Origin of the *Medulla Spinalis*, the *Nates* and *Teſtes*, and the *Glandula pinealis*, extending it ſelf to the Ventricles of the Brain, as Mr. *Wiſeman* hath obſerved.

The Diagnoſticks. The Signs of Hydrocephalus, if the Humour lies under the Scalp, is a Tumour of the whole. If the Tumour be œdematous, it eaſily pits, but does not fill up ſo ſoon again as if it be a wateriſh

riſh Serum. In the latter, the Face is ſwelled and pale, and the Eye-lids; and ſometimes bloody and ſhining. In the Increaſe, a Tumour is thruſt out much like a Wen, but appears to be full of Water by its Fluctuation. When it lies between the Pericranium and the Cranium; the Skull is bare, and the Humour fluctuates. If it be contained betwixt the Cranium and the *Dura Mater*, the Sutures are very looſe and open. When it lies under the *Dura Mater*, the Membrane tumifies, and is often thruſt out betwixt the Sutures.

The Prognoſticks. Thoſe that are ſubject to this Diſtemper are unhealthful, and ſubject to Convulſions, and the Rickets which often terminate in the King's Evil. When the *Dura Mater* is thruſt out betwixt the Sutures, it is mortal, and thoſe next the Cranium are very dangerous. Likewiſe if the Tumour ſpread over the whole Head, it is more difficult to cure than when it only appears in one part only.

The Cure. In the Cure of this, the ſame Method, in reſpect of Internals, is to be obſerved, that hath been propoſed in the Chapter *Of Wateriſh Tumours in general.* Externally ſtrong Diſcutients are proper to cheriſh and recover the natural Temper of the Part, as well to diſcharge the Humour, as *Summit. Thym. Abſinth. Majoran. fol. beton. ſalv. fl. ſambuci. cham.* to which may be added, *fl. roſ. rubr. balauſt. ſumach. N. Cypreſs. bac. myrt. gland. querc. gallæ, &c.* Aſtringents by contracting the Skin likewiſe aſſiſting the Expulſion of the Matter, which may be boiled in Wine or a *Lixivium.*

If ſtronger Applications are requiſite, you may add *Sulph. viv.* or *alumen*, or embrocate the Parts with the following, ℞ *ol. Laur. aneth.* āa. ℥ij. *ol. de ſpica, de Lateribus* āa. ℥j. *Sulph. viv. ſal. commun. alum. uſt.* āa. ℥ß. *ciner. fabar. ſiliquar.* āa. ℥ij. *Terebinth. Styracis calamit.* āa. ℥j. which with the Addition

dition of Wax may be made into a Cerot. Or, ℞ *pulv. ſummit. Origan. Abſinth. fl. roſ. rubr. baluſt.* āa. ℥j. *ſal. commun.* ℥vj. *Mel. commun. q. ſ. f. Cataplaſm. Emp. de Beton. de Baccis Lauri, cephalic. Diapſulph.* or *Sinapi*, are alſo proper. Fontanels behind the Ears, or in the Neck, are alſo convenient.

If the Tumour abate not by the Uſe of Internals and Diſcutients, and Aſtringents, it is convenient to diſcharge it by Apertion, ſtill continuing the Uſe of Diſcutients to preſerve the Temper of the Parts. If the Tumour be particular, and of a long ſtanding, and riſe from a ſmall Baſis, you may make a Ligature and cut it off; and if it riſe from the Skull, Extirpation is to be forborn.

Apertion, when neceſſary.

CHAP.

CHAP. XXI.

Of the Scab and Itch.

The Difference of the Cauſes.

THE Scab and Itch are too well known to want any Deſcription. As to the Cauſe, it chiefly depends on the depraved Diſpoſition of the Serum of the Blood, but in ſome Bodies in ſome meaſure is occaſioned by the particular Formation of the Skin; and frequently is occaſioned by Infection.

The Temper of the Blood ſometimes the Cauſe.

It depends on the depraved Diſpoſition of the Serum of the Blood, when the Serum is too much impregnated with vitious Salts; by which means the natural and due Fermentation of the Blood is perverted, the ſuperfluous Salts depreſſing too much the volatile, ſaline, and ſulphureous Parts, ſo that the Serum is not digeſted and rarifyed as it ought to be. The Serum of the Blood being thus rendered too thick, as well as too ſalt, when ſeparated in the cutaneous Glands, is not fine enough to paſs off by the Pores of the Cuticula, ſo that the ſaline Humour detained betwixt the Cutis and Cuticula, acquires a further Degree of Acrimony, and corrodes and ulcerates the Superficies of the Cutis, and ſeparating the Cutis alſo, forms abundance of ſmall Puſtules, and at laſt, the thinner part of the Serum being evaporated, the groſſer part united with the ſuperfluous Salts produce a dry Scab; and as new Serum is ſtill diſcharged, the thinneſt part runs off in a Gleet, or evaporates, and the groſſer part along with the Salts add to the

the Increaſe of the Scab; which Salts ſtill corroding the Cutis, enlarge the Ulcerations.

The particular Formation of the Skin, how it contributes to the Cauſe.

But in ſome Bodies the particular Formation of the Skin may be partly the Occaſion; as when the Glands of the Cutis are too lax and open, and ſeparate the Serum too thick, ſo that it is apt to coagulate as ſoon as extravaſated, or otherwiſe is not fine enough to paſs through the Pores of the Cuticula; ſo that the Humour thus lodged betwixt the Cuticula and Cutis likewiſe grows more acrimonious, and corrodes the Cutis, and forms a Scab; but in this Caſe the Serum is likewiſe too ſaline and thick.

How it is promoted by Infection.

When this Diſeaſe happens to be occaſioned by Infection, there is more or leſs of a Pre-diſpoſition of the Serum of the Perſon infected, ſince ſome are more eaſily infected than others, and ſome whoſe Blood is very good will ſcarce be infected at all. As for the manner how this Diſeaſe is transferr'd by Infection, we ſuppoſe as reaſonable, that that ſaline Humour which is lodged in the Skin of the Perſon the Infection is derived from, having acquired a greater Degree of Depravation by its Continuance there, when it affects the Skin of another Perſon, the corroding Salts running through the Pores of the Cuticula impregnate the Serum upon the Surface of the Cutis with their acrimonious Parts, and affecting the nervous Papillæ with their pungent Particles, cauſe an itching Pain, which exciting Heat occaſions a quicker Separation of the Serum, and faſter than it can be diſcharged by the Pores of the Cuticula, ſo that it ſeparates it, and raiſes ſmall Puſtules; where the Serum impregnated with this heterogeneous Salt grows more corroding, ulcerates the Cutis, and by Degrees inſinuating themſelves through the Pores of the Veſſels, they communicate their depraved Qualities e-

The Cauſe of the itching Pain.

ven to the Blood it ſelf; and thus by degrees the whole Maſs becomes tainted with a vitious Ferment, and the Serum of the Blood depraved.

As for the itching Pain that attends this Diſeaſe, it proceeds from the Pungency of theſe depraved Salts affecting the nervous Papillæ of the Cutis.

Differences. This Diſeaſe differs as the Cauſe is more or leſs violent, or as it is general or particular. That which is occaſioned by Infection is not dangerous; but if it proceed from an habitual Indiſpoſition of the Humours, when retained it often occaſions Fevers, Epilepſies, and other ill Accidents; and if neglected, at the laſt corrupts the Blood ſo much as to be fatal.

The Cure. In the Cure of this Diſtemper, a good Diet is to be preſcribed, avoiding all things that are ſharp or ſalt. And their Drink, if made of Mault, may be altered with medicinal Herbs, as *Succory*, *Agrimony*, *Pimpinel*, *Harts Tongue*, *Fumitary*, &c. Or ℞ *fol. Agrimon. Origani, Veronicæ utriuſq;* ãa. *M. ſs. rad. enul. Camp. Scorzoner. hirundinar.* ãa. ℥iij. *Mac. Cin.* ãa. ℥j. *coq. in Cereviſ. tenuis* ℔vj *ad dimid.*

Evacuations are alſo requiſite, partly to diſcharge part of the vitious Serum, and partly to leave more room in the Veſſels for Correctives to alter the remaining part; and likewiſe for Liquors to dilute the Serum, that it may the better be diſcharged through the Pores of the Skin, or other convenient ways.

Bleeding neceſſary. And firſt Evacuation is to be made by Bleeding, which is to be repeated when the Diſeaſe is ſtubborn, and of long ſtanding, as occaſion requires.

Purging, when requiſite. The Serum of the Blood being attenuated and diluted, by Liquids received into the Veſſels, in the room of thoſe diſcharged by Veneſection, it will be con-

convenient to make a farther discharge by purging, to which purpose *Decoct. Sennæ Geron*, or *Epithym.* may be made use of: Or, ℞ *Summit. Fumar. M. j. rad. cichor. polypod. Lapath. acut.* āa. ʒj. *fl. trium cordial. M. ss. Epith.* ʒij. *fol. Sen.* iij. *Rhub. incis. & nodulo inclus.* ʒj. *Liquorit.* ʒij. *sem. fœnic. dulc.* ʒiij. *coq. in aq. font. ad* ℔j. *Colatur. add. Syr. Ros. cum Agar.* ʒi. ß. *Mann.* ʒij. *pro tribus Dos.* If the Body be strong, and the Humours gross, more powerful Purgatives are convenient, as *Pil. ex. duob. de Agaric. Coch. Rez. Jalap. & rad. Rez. Scammon.* &c. which will be more effectual, if xv. or xx. Grains of *Merc. Dulc.* be added, it disposing the Humours the more easily to be discharged, and also corrects the Acrimony of the ill disposed Salts.

But besides Bleeding and Purging, alterative Medicines will be also proper, and such as dispose the saline Particles to go off by Urine or Diaphoresis; especially if the Disease depend upon an habitual ill Crasis of the Blood; proper Alteratives are antiscorbutick Electuaries and volatile Salts, which attenuate and subtlelize the vitious Salts, and render them thin enough to pass through the Kidneys, or the Pores of the Skin; also a Decoction of *Sarsaparill. Lign. Guaj. Sassaphras. sant. rubr. Citrin.* or *alb. Ros. Eb. CC.* &c. may be conveniently drunk Night and Morning in Bed, which will dispose the Humours attenuated by Evacuation, and Alteratives, to go off by Diaphoresis. *Alteratives also requisite.*

External Applications, proper in these Cases, are of several kinds, as ℞ *rad. enul. camp. Lapalt.* āa. ʒij. *rad. bryon.* ʒj. *Sum. fumar. abrotan.* āa. *M.* ij. *fl. ros. rubr. M.* j. *cort. granat. Sumach.* āa. ʒß. *Vitr. alb.* ʒiij. *Sal. petræ* ʒij. *alum. Sulph. viv.* āa. ʒß. *coq. in aq. font.* ℔iv. *Colat. pro fotu*, which consisting chiefly of Astringents and Discutients, we suppose that the Astringency binds up the excre- *What Externals are proper.*

tory Veſſels of the cutaneous Glands, ſo that the Scabs are perfectly dryed up and fall off, whilſt the diſcutient Medicines prevent Obſtructions in the Veſſels of the Cutis, (which might be occaſioned for want of a due Separation of the Serum in the Glands,) by rarifying the Humours ſo that they might paſs more freely through the Veins. After the uſe of the Fomentation one of the following Ointments may be made uſe of: ℞ *Unguent. Roſat.* ℥iij. *Balſ. peru.* ℥ß. *arcan. corallin.* ʒij. Or, ℞ *Sev. agnin.* ℥iv. *ol. amygd. Dulc. papav.* āa. ℥j. *ol. hyoſcyam. per expreſſ.* ℥ij. *Ung. Tutiæ Vigonis* ℥j.ß. *alum. uſt. zinzib.* āa. ʒij. *Oliban.* ʒj. *Croci* ℈ij. *ceræ q. ſ.* which by their balſamick and drying Qualities heal the Ulcerations of the Cutis, and promote the Generation of a freſh Cuticula. How Balſamicks are beneficial in healing of Ulcers, and the reaſon why Aſtringents cicatrize, ſhall be explained in the following part of Ulcers.

In ſtrong Bodies, and where the Humour is ſtubborn, *Mercurius Vivus* with *Axung. porcin.* or *Unguent. alb.* may be convenient, which may be made more grateful by adding a few drops of Oyl of *Rhodium*; but Care muſt be taken to purge after the Uſe of Mercurial Oyntments, to diſcharge the Serum impregnated with the Mercurial Particles.

If the Diſeaſe be occaſioned by Infection, and hath but moderately affected the Skin without tainting the Blood, *Sulph. viv. in axung.* is ſufficient: Or, ℞ *Unguent. Nutrit.* ℥ij. *Unguent. popul.* ℥j. *Styr. liquid.* ℥j. *Cinnab.* ʒiij. Or, ℞ *Unguent. popul.* ʒj. *Unguent. Roſat.* ʒij. *Ori.* ℈ß. *M.* If the Hands or Fingers be chopped, ℞ *Unguent. roſat. in ſuc. Aurant. lot.* ℥iij. *ceræ alb.* ʒvj. *Miſceantur ſuper ignem, addend. piper. alb. zinzib. pulv. q. ſ. f. Cerat.*

Cerot. The Oyntment and the Wax cool the extraordinary Heat and ſoften the cruſted Parts, as well as ſtop the Evaporation of what tranſpires, whilſt the Spices warm the cutaneous Glands, and cauſe them to diſcharge a greater Quantity of Serum, by which means the vitious Salts are diſſolved, and the cruſted Parts moiſtened and relaxed again.

If the Diſeaſe will not yield to the forementioned Means, a Decoction of *Sarſaparill. Lign. Guajacum, Saſſaphras, ſant. omn. Raſ. Eboris, C.C. Liquorit.* &c. will be neceſſary, which may be uſed for Common Drink, purging frequently as occaſion requires, and repeating the Uſe of antiſcorbutick Alteratives betwixt Purging.

CHAP. XXII.

Of Lepra or Elephantiasis.

Description. LEPRA is the highest Degree of the Itch, where the Scab grows dry, and breaks out in the Form of white Scales, sticking one to another; if they happen to be pulled off, which is with Difficulty, the Skin appears red, and they soon return again.

The Cause. In this Disease the Serum of the Blood is very much impregnated with a vitious Salt, so that the Blood is not able to digest and attenuate it sufficiently, the crude saline Particles depressing the more volatile, and preventing them from exerting themselves, by which means the Serum is not only too thick by the Mixture of too much Salt, but also its own Crudity. The Serum thus depraved, as long as it continues in Circulation by a constant Agitation of its Parts, retains its Fluidity; but when separated by the Glands of the Skin, and being too thick to transpire through the Pores of the Cuticula, for want of its usual Agitation it presently grows thick, and the thinnest Part evaporating, forms a dry salt white Scab, the saline Humour pricking the nervous Papillæ, and causing an itching Pain; being very troublesome and difficult to cure.

The Cure. In the Cure, the same Internals are requisite as in the Itch, only Purging is to be repeated every third or fourth Day, or as oft as the Strength of the

the Patient will permit, with a convenient Quantity of Calomel, which if given in a Bolus over Night, may dispose the Humours to go off the better by Purging in the Morning.

Externally Fomentations are proper, which may be made of the following Ingredients, as *fol. & rad. Althææ. lapath. acut enul. Camp. bryon. fol. Scabios. Majoran. fumariæ, bac. Laur. Junip. sem. Staphisagriæ sinap. alumen.* or *Vitriol. Hung.* by which the Scab is made more dry and apt to fall off, the Allom and Vitriol adhering to them, whilst the emollient Discutients, by their warm and penetrating Effluvia, heat and increase the natural Ferment of the Humours in the Cutis, and cause a greater Quantity of Serum to be separated by the Glands, which helps to separate and cast off the Scab, by interposing betwixt it and the Skin.

After Fomentation Mercurial Oyntments are proper, as, *Unguent. enulat. cum Mercur.* or *axung.* ℥ij. *Mercur.* viv. ℥ß. *Misceantur probè mortar. Vitreo. addend. ol. Rhod. gut.* x. by which the vitious Salts are not only corrected in the Glands of the Skin, but the Serum attenuated, and separated more plentifully, and the Scabs also loosened by the greasy parts of the Oyntment.

Salivation, when necessary.

If by frequently repeated Evacuations, and the Use of Alteratives internally, and Medicinal Diet Drink, *&c.* the Disease is so stubborn as still to continue, it will be convenient to cleanse the whole Mass of Humours, by a continued Salivation; which may reasonably be raised, partly by Internals, and partly by Unction. For if it be begun by Internals, the gross Humours contained in the Mass of Blood will be more easily disposed to go off by Salivation, before the Salts lodged in the Cutis are mixed with them, but when Sali-

vation is begun, and the Serum of the Blood a little cleanſed, by external Unction the vitious Salts in the Cutis will be more readily diluted, and the ill Ferment lodged in the Glands of the Skin corrected, ſo that there will be leſs Danger of a Relapſe. After Salivation, Purging will not only be neceſſary, as in other Caſes, but alſo Diaphoreticks of *Sarſaparil. Lign. Guaj.* &c. *Saſſaphras. rad. Chin. ſant. omn. Raſ. C.C. Eb. Liquorit.* &c. the firſt cleanſing both the Stomach, Inteſtins, and Blood of the Remains of the Diſtemper, and the Mercurial Parts; and the latter, by Diapho-reſis, waſhing out any vitious Ferments that may be lodged in the Glands of the Skin, or betwixt it and the Cuticula.

CHAP.

CHAP. XXIII.

Of a Gutta Rosacea.

A Gutta Rosacea is a Number of hard Pimples or Tubercles affecting the Face in several Places, as the Brows or Nose, with a fiery itching Pain; if scratched they look red and increase. *Description.*

It is occasioned by a gross hot Serum which obstructs and tumifies the Glands of the Cutis, by which Tumours the nervous Papillæ being compressed, produces an itching Pain. This Disease happens commonly to those that not only inflame their Blood by Drink, but also by disordering the natural Ferment of the Stomach; for want of true Digestion, Crudities are heaped up in the Mass of Blood, which being thickened in the Glands of the Cutis in the Face, by the external Air to which they are exposed, it distends their Vessels and tumifies them, whilst the hot Humour that attends this Phlegm, affecting the nervous Papillæ, (which are likewise compressed by the Tumours) causes a flushing Heat. *Cause.*

The Signs of a Gutta Rosacea, are a flushing Heat, with red Pimples and Tubercles, which in time become blewish, or of a more dark red Colour. *The Diagnosticks.*

This Disease is hard to cure in the Beginning, the Phlegm which tumifies the Glands being rendered tough by the hot Serum it swims in; and if they be of long Continuance, grow large; adventitious *The Prognosticks.*

tious Phlegm joyning that which was lodged in the Part, the thinner hot Serum flowing through the distended Vessels, as the uncoagulated Blood in the Veins, does betwixt the Vessels and Coagulum in a Varix. When they grow big, Excrescences rise from them which are never removed.

The Method of Cure. In order to the Cure, a regular Diet is to be observed, which is to consist of such things as are of easy Digestion. Drinking is also to be regulated, forbearing such Excess as may inflame the Blood, and pervert Concoction in the Stomach, by over-heating and destroying the natural Ferment.

By Internals. But besides a due Regimen in eating and drinking, Evacuation by Bleeding is convenient; and after that, lenient purgative Apozems, as, ℞ *fol. Cichor. Acetos.* āa. *M. j. sennæ* ʒiij. *Tamarind.* ʒß. *fl. trium. cord.* āa. *P. j. Liquiritiæ* ʒij. *sem. fœnic. dulc.* ʒj. *coq. ad* ʒiv. *in Colatur. dissolv. Rhei. in aq. Cichor. infus.* ʒj. *syr. Ros. solut.* ʒj.ss. *aq. Cinnamom. cochl. j. M.* Or, ℞ *rad. oxylapath. acetos. Cichor. graminis* āa. ʒj. *fol. endiv. fumar. dent. leon. capil. Ven.* āa. *M. j. sem. quat. frig. Maj.* āa. ʒiij. *Liquirit.* ʒss. *sennæ* ʒij. *Tamarind.* ʒj. *Galang.* ʒij. *Sant. citrin.* ʒj. *coq. ad* ℔j. *Colat. adde Expressionem* ʒss. *rhab. in prædict. decoct. syr. de pomis purg. q. s. f. Apozem.*

When Evacuation hath been made by Bleeding and Purging, convenient Alterations are to be made use of to restore the Blood to its natural Crasis, as Chalybeats prepared with Tartar and cooling Antiscorbuticks.

What is to be done externally. As to Externals, if the Face at the first be only affected with a flushing Heat, and some small Pimples, *Decoct. Malvæ, bismalvæ violar. sem. Verbasc. psylli*, &c. and a Posset made of the Juice of Lemmons may be sufficient; the emollient Discutients softening and dissolving the Matter of the Tumour,

and

and the other contracting the Parts to promote its Expulſion, and to confirm the Tone of the Parts. But if the Tubercles are of longer ſtanding, and hard, ſtronger Emollients are to be uſed, as, *rad. ſigil. ſolom. cucum. agreſt. rad. lil. ſem. lini, fœnug.* &c. or *Cerot. de Althææ* may be applyed. And if they ſuppurate, diſcharge the Matter by opening them, and then deterge and cicatrize, uſing the following to ſmooth the Skin: ℞ *Camph.* ʒj. *ol. amygd. dulc.* ʒiij. *M. in Mortar. deinde add. ol. Tart. per deliq.* ʒij. *Vitel. Ovor.* N°. ij. *Sacchar. Saturn.* ʒſs. *aq. flor. fabar. ſigil. ſolomonis aq. Roſ.* ãa. ʒiij. or *lac. Virgin.* thus made. ℞ *Lytharg. auri* ʒiij. *acet. opt.* ℔j. *coq. ad dimid & colat. add. ſalis com. in aqua font. ſolut* ʒiv. *aq. Roſar.* ʒvj. *Sal. Armon.* ʒj. *M.* By the Uſe of which Aſtringents, the Glands of the Skin are all equally contracted, ſo that the Cuticula lies ſmooth upon it; and the Fibres of the Veſſels are alſo ſtrengthened and contracted to their natural Tone, ſo that the Parts are not ſo ſubject to receive a freſh Influx of the Humours, if any ſhould yet remain in the Maſs of Blood.

CHAP.

CHAP. XXIV.

Of Flatuous Tumours.

Description. EMphyſema is a light puffy Tumour, eaſily yielding to Preſſure, and ſoon riſing again.

Differences. The Differences are, either as they are pure, proceeding only from Wind, or mixed with a phlegmatick Humour; they differ alſo as they are internal or external: Internally they come under the Care of Phyſicians; Externally they happen upon the Eye-lids, and about the Joynts, and other membranous Parts, as the Scrotum and Navel, where they form a Hernia Ventoſa, the Peritonæum being firſt relaxed, and if not timely prevented, a Hernia Inteſtinalis enſues.

The Cauſe. As to the Cauſe, it evidently appears to be a windy Vapour, which is occaſioned by a Fermentation of the nitro-ſulphureous Parts of a crude Humour, which by an accidental Ferment are rarifyed and expanded, and aſſumes the Form of a Vapour; the ſulphureous Particles being firſt put into Motion by ſome accidental Heat, are by that Motion inclined to ſeparate themſelves from one another and fly away, but being confined by the nitrous Parts, their Motion is reverberated and reflected by that Reſiſtance, by which means they acquire the greater Force; as the ſubtle ſulphureous Parts of Fire, endeavouring to extend their Sphere, are ſtruck back and confined by circumambient Cold, and ſo the internal Heat is increaſed by a Reverberation

beration of those subtle Parts, which in open Sunshine, or warm Air, where there is little Nitre to resist, they easily dissipate themselves and fly away. Now the sulphureous Parts of this Liquor being beat back, and acquiring greater Force, by degrees rarify and expand not only themselves, but the nitrous Parts also, and a thin Vapour extends the membranous Parts, which easily give way to them, and so form the Tumour. Thus in the Spring, when by the Heat of the approaching Sun warm sulphureous Vapours are mixt with the nitrous Parts of the Air, they ferment together, and occasion violent windy Expansions; and the like happens in Autumn, when the nitrous parts of the Air begin to involve and check the hot sulphureous parts of the Air, which they are not able to hinder from expanding. This accidental Ferment in the Body often happens to be excited, and first stirred up, in a Humour aptly prediſpoſed, by the natural Heat of the Body; and often by an external Accident, as a Blow, by which the Part acquires an additional Heat, and also weakens the Parts to give way, as well as incline, a prediſpoſed Humour to exert it self.

The Diagnosticks.

These Tumours, if external, neither discolour the Skin, nor are painful, except they affect the Periosteum, and lie deep amongst the Muscles; but their Increase is always sudden, and likewise their Diminution.

The Prognosticks.

Flatuous Tumours of the great Joynts are very difficult to cure, and not to be opened without a great deal of Caution; but those which affect not the Joynts may be opened any time, and are easily cured.

The Cure. Internally.

In the Cure Internally, purging Medicines may be convenient, and such Alteratives as may strengthen the Stomach, and help Digestion, and likewise

wiſe corroborate the Craſis of the Blood, that the Serum being better digeſted, may digeſt thoſe crude Parts which are ſubject to create windy Expanſions.

Externally. Externally ſuch Applications are proper as may diſperſe, and digeſt the nitro-ſulphureous parts of that Vapour, and by ſeparating their Parts, put an end to their united Expanſion, as *ſum. Majoran, abrotan. hyſſop. origan. Rutæ roriſmarin. bac. Lauri Junip. ſem. aniſ. fœtic. carui, cymin.* &c. with which Fomentations may be made in a *Lixivium* or Wine, or the Part may be embrocated with the following; ℞ *ol. Rut. ſambuc. cham anethi* āa. ʒj. *ol. Marjoran Carui.* āa. ℥j. *M.* or, *ol. ſulph. Terebinth. Emplaſt. de bac. Lauri, Cymin,* &c. may be applied; or, ℞ *fœcis ceræ nov.* ℔j.ß. *micæ pan. furfurac.* ℔ß. *fl. roſ. rubr.* ʒj. *coq. in vino albo deinde contund. & add. piper. caryophill. zinzib.* āa. ʒij.ß. *ſem. Aniſ. cymin. fœnic. ammeos,* āa. ʒß. *ol. Cham. Aneth. Rut.* āa. ʒij. *M. f. Cataplaſm.* Theſe warm Diſcutients ſeparate and divide the nitrous Parts by their ſubtle Effluvia, and ſo diſperſe them. But if by cold Applications, and good Bandage, you condenſe and compreſs theſe Vapours, the Tumour ſoon diſappears. But if the Tumour be in a Part where it may be ſafe, the ſpeedyeſt way of Cure is by opening it. If the Tumour grows painful and inflamed, Anodynes are to be made uſe of.

CHAP.

CHAP. XXV.

Of Hernia.

HErnia is defined to be a Tumour made by the Interpoſition of a ſolid Body, as when the Omentum or Inteſtins are interpoſed betwixt the Coats of the Peritonæum and Scrotum, or other adjacent Parts. *Definition.*

If the Rupture be at or near the Navel, by an Extenſion of the Peritonæum, and the Tendons of the oblique and tranſverſe Muſcles, it is called Exomphalos; but if the Omentum or Inteſtins fall down into the Scrotum, that Tumour is properly called a Rupture: But other Tumours, from their Likeneſs, are called by the ſame Name, as Hernia aquoſa, which is occaſioned by Water; Hernia Carnoſa, which is a Sarcoma; Ventoſa, from Wind; and Varicoſa, being a Tumour of the Corpus Varicoſum. *Differences.*

But Hernia Scroti and Exomphalos, being moſt properly called Ruptures according to the Definition, I ſhall here only conſider them. And firſt, When the Omentum or Inteſtines fall quite down into the Scrotum, it is called a perfect Rupture, but when they fall only part of the way, it is called a Relaxation; the Peritonæum being as yet whole, and only extended.

As to the Cauſe of a Rupture, it may be occaſioned ſeveral ways. In Children it often happens by vehement crying, and holding their Breath; the Parts being tender and moiſt, ſo that they eaſily *The Cauſe.*

give

give way to the Weight and violent Preſſure of the Guts. In People of riper Age and grown Bodies, it may be cauſed by hard Exerciſe, Riding, Leaping, Vaulting, Hallowing, carrying of any great Weight, or by a Blow or Fall, or any other Accident that may force the Inteſtines too violently upon the Peritonæum, ſo much as to extend or break it, a Rupture always following a Relaxation of that Membrane. In very fat People the Weight of the Inteſtines ſometimes is the Cauſe of a Rupture. In Women, often hard Labour is the Occaſion of a Rupture in the Groin, which is from thence called Bubonoceles.

The Diagnoſticks of a Hernia. The Signs of a Hernia, whilſt it is only a Relaxation, is a ſoft Tumour in either Groin, or any other Part of the Belly, without Inflammation or Pain. This Tumour ſoon ſhews it ſelf if the Patient ſtand, but if he lie down ſome time on his Back, it preſently diſappears again.

Of a Hernia Inteſtinalis. The Signs of a Hernia Inteſtinalis, when a Rupture of the Peritonæum is made, are a ſudden Tumour in the Inguen or Scrotum, by the falling down of the Inteſtins or Omentum. If a Blow or Fall was the Cauſe of it, it is painful, and ſometimes Blood is extravaſated. This Tumour may be diſtinguiſhed from a Hernia Carnoſa, by laying your Hand upon the part where the Peritonæum paſſeth out of the Abdomen, the Patient coughing or ſneezing, for by that means the Motion of the Gut will be perceived. In Women, if this Diſeaſe be neglected, it forms a round Tumour near the Pudenda.

Of a Hernia Omentalis. In a Hernia Omentalis, the Tumour is unequal, ſoft and ſlippery, and always of the ſame Bigneſs; whereas in a Hernia Inteſtinalis it is greater or leſs as the Patient is full or empty, a painful Cholick attending

attending it, and if not relieved in due time, a Fever and Vomiting.

Hernia Umbelicalis is apparent, by the Protuberance in the Navel; whether it be inteſtinal or omental, and may be diſtinguiſhed the ſame way, as in the Scrotum. *Of a Hernia Umbelicalis.*

Hernia Ventoſa affects the Belly in ſeveral Places, and may be known by the Quickneſs of its Increaſe. It is common in Children, the Wind lying betwixt the Tunica Vaginalis, and forming a Tumour either long or round, as it is confined to the Cavity which contains the Teſticle, or extends it ſelf to the Production. *Of a Hernia Ventoſa.*

A Hernia, by Relaxation, is leſs dangerous than when it is confirmed by Rupture. In Children and young People under twenty it may be cured, if reduced in time, but in old People it is only to be relieved by a Truſs. If it be long before it is reduced, violent Pain, Cholick and Fever; and by ſtopping the Paſſage of the Excrement, at laſt, Inflammation, Gangrene and Death enſue. But if the Rupture be large, and of long Continuance, the Excrements paſs freely through the Inteſtines without any ill Symptoms. *The Prognoſticks.*

Hernia Umbelicalis, if neglected, is attended with the like Accidents as that in the Scrotum.

A Hernia Omentalis is not dangerous, but hard to reduce, and to keep up when it is reduced, being ſoft and ſlippery. In Children and ſanguine Conſtitutions it is eaſily cured, eſpecially if the Tumour be ſmall, and only in the Inguen.

A Hernia Ventoſa is more eaſily cured, eſpecially in Children, who are moſt ſubject to it.

In the Cure of a Hernia we are to conſider, firſt whether it be inteſtinal or omental, alſo its Continuance, and whether it be only a Relaxation or a perfect Rupture. *The Cure.*

Reduction, and what Applications are proper afterwards.

If the Inteſtines be fallen down into the Scrotum, the firſt thing to be done is Reduction; in order to which, the Patient is to be placed upon his Back, with his Head downwards, and his Hips raiſed up, drawing his Heels towards his Hips; then with warm Cloths moderate Preſſure is to be made, and gradually; Care being taken neither to hurt the Inteſtines nor the Teſticles. If the Excrements in the Inteſtines hinder the Reduction, the following Clyſter may be given, ℞ *rad. & fol. Althææ, fol. malv. bet. parietar.* āa. *M. j. fl. Cham. melil. ſambuci* āa. *M.ſs. ſem. Lin. fœnugræc.* āa. ʒvj. *ſem. aniſ. fœnic.* āa. ℥j. *coq. ad tertias, Colat* ℥viij. *diſſolv. ſacchar. rubr.* ℥ij. *mel. roſat. Colat. Diacatholicon* āa. ℥j. *Hieræ picræ* ʒvj. *ol. Cham. lilior.* āa. ℥ij. *Sal. commun.* ʒij. *M. f. Enem.* which is to be repeated as oft as convenient, till the Inteſtines are empty'd; applying Stupes wrung out of the remaining part of the Decoction, and, if the Faces are very hard, the decocted Ingredients may be applyed in the Form of a Cataplaſm, with *axung. porcin. Unguent. de Althææ*, or *ol. lil.* &c. If flatuous Vapours hinder the Reduction, the Part is to be fomented and embrocated with Diſcutients. The Inteſtines being thus emptyed, and the Rupture reduced, the next thing to be done is to apply proper binding Agglutinatives to contract and confirm the Parts relaxed in the Rupture, as, *Emp. ad Herniam*, or ℞ *Maſtich. Thur. Aloe, ſang. Dracon. ſarſacol. bol. Armen. gypſ. gallar.* āa. ʒij. *ichthyocoll. & taurocoll. in aceto ſolut.* āa. ℥ij. *malaxantur. & f. Emplaſt.* which being applyed with a good Truſs, may keep the Inteſtines up, and the Rupture firm, whilſt the relaxed and ruptured Parts adhere and agglutinate.

What is to be done after Reduction, and proper external Applications.

The Rupture being thus reduced and ſecured; in order to the Cure the Perſon is to obſerve a convenient

venient Diet, and a due Regimen in the way of Living. Their Diet ought to be such as may afford good Nourishment, and not subject to breed Crudities, and sparing in Quantity, that the Intestines being neither too much crowded with Excrements or Flatulencies, may press the less upon the ruptured Parts. Their Drink ought also to be good, and such as may help Digestion, and prevent Crudities.

Rest also is convenient in this Case, there being the less Pressure made upon the Part affected. Exercise is also to be forbid for the same Reason, for the Body being in an erect Posture, the whole Weight of the Intestines must needs force upon the Rupture, and hinder the Parts from uniting. The Body is likewise to be kept open with Clysters, that there may be the less Occasion for straining when the Patient goes to Stool. If the Body abound with crude and indigested Humours, purgeing will also be necessary to discharge them, that the parts being kept clear and free of Crudities, may the better be disposed to unite again, and grow firm and strong.

Agglutinatives internally requisite.

To promote the Union and Contexture of the Parts again, Agglutinatives are to be made use of, which are simple or compound. The simple are such as have a moderate Astringency, as *Consolid. maj. & min. quinquefol. Equisetum, sanicula, auricula Ursi, piloſebla, gacea utrisq; sigil. solomonis, tormentil. Osmunda Regalis hippoglossum, lunaria minor, perfoliata, herniaria, Herba Trinitatis, cort. Cypress, Granator,* &c. *Osmunda Regalis, Hippoglossum,* and *Gomfry Roots, herniaria* and *perfoliata* are esteem'd as specifick in this Disease, and may be either given in Powder, or mixed with red Wine, or drunk as Tea.

Compounds may be made uſe of as followeth, ℞ *Conſ. roſ. rub. ſymphit* āa. ℥j. *fol. ſalv. acori* āa. ℥ß. *troch. de Carab. vel de Spodio vel de Bol.* ℥iij. *cum q. ſ. ſyr. de roſ. ſic. f. Elect. Cap. 9. N. Moſch. horis medicinalibus*, drinking ſix Ounces of the following after it, ℞ *Herb. Alchimil. ophiogloſs. nummular. fragror. Auric. Muris, Veronicæ, Artimiſiæ Scolopendriæ perfoliat* āa. *M. j. Virg. Aur. M. jj. rad. tormentil. cichor. biſtort. vincetoxit. hirundinar.* āa. ℥j. *perfoliat.* ℥ß. *cort. citri* ℥j.ß. *ſem. Aniſ. fœnic.* āa. ℥iij. *Coriand. præp. Cinam.* āa. ʒj. *flor. borag. bugloſs.* āa. ℥ij. *prunel. Sylveſt.* ℥j.ß. *Galang.* ℥ij. *paſſul. enucleat* ℥j.ſs. *M. infund. in q. S. Vini optim. Colat. reſervetur pro uſu*; which by their Aſtringency incraſſate and dry up the ſuperfluous Serofities, and diſpoſe the Parts, not over-burthened with ſuperfluous Moiſture to grow together and adhere the better.

Inciſion, when requiſite, in order to Reduction.

If a Rupture, by the long Continuance in the Scrotum, cannot be reduced by the before-mentioned Methods, the Inteſtines being too much diſtended with Fœces or Flatulencies, ſo that the Life of the Perſon be in Danger, it may not be unreaſonable to lay the Production of the Peritonæum open whilſt the Patient enjoys ſome Strength, and is able to bear it. In Order to this, the Patient is to be laid flat upon his Back, and bound down, then Inciſion being made upon the upper part of the Scrotum to the Production, that is alſo to be divided, Care being taken neither to hurt the Inteſtines nor the Omentum; then paſs a Canula into the Cavity upwards, under the Proceſs of the *Peritonæum*, clear of the Inteſtines, and make an Inciſion large enough to put your Finger into the *Scrotum*, to raiſe the Inteſtines and *Omentum*, which are then to be reduced into the Cavity of the Abdomen. This being done the Wound muſt be

be ſtitched up, taking ſo much of the Production up as may hinder the Relapſe of the Inteſtines, and then dreſs up the Wounds with Agglutinatives, as, *Bol. Armen. Sang. Drac. Thus, Aloes, cum alb. ovi.* then dreſs with the following Digeſtive, ℞ *Vitel. ovor.* N°. ij. *farin. tritic. Thuris* āa. *q. ſ.* after deterge with *Mundif ex Apio*, and incarn with the following, ℞ *Terebinth. ſic.* ℥iij. *Thuris Maſtich. ſem. fœnugræc.* āa. ℥ſs. *ceræ* ℥j. *ol. hyperic.* ℥x. *M.* and then cicatrize.

A Bubonocele in Women is to be cured, after Reduction by Plaiſters and Bandage, as in Men. *Of a Bubonocele in Women.*

A Hernia Umbelicalis is likewiſe to be reduced, and then retained with Agglutinatives and Bandage. If for want of Care in time the Skin grows thin and mortify, dreſs accordingly, and after the Separation of the Eſchar, ſtick the *Peritonæum* cloſe with the Ulcer, and then digeſt, incarn and cicatrize, aſſiſting the part afterwards with good Bandage. *Of a Hernia Umbelicalis.*

In Children Ruptures are eaſily cured, if Care be taken to keep on their Truſſes, applying *Emp. ad Hem.* and *de bol.* over the part with compreſs; having a due regard to Temperament of the Body, which being in Children naturally too moiſt, is to be obviated by proper Internals as above directed. *Of Ruptures in Children.*

CHAP. XXVI.

Of the Hæmorrhoids.

Of Varicose Tumours of the Hæmorrhoids.

HAving treated of Varicose Tumours in general; above in the Chapter of Varix, we shall proceed to those which more particularly belong to a certain Part, *viz.* the Varicose Tumours of the *Venæ hæmorrhoidales*; these Vessels sometimes only tumify and extend, but sometimes they break and void Blood. The Vessels subject to these Tumours are either internal or external: The internal are the *hæmorrhoidalis interna*, which receives the Blood from the *Rectum*, and Parts about the Anus, which is brought there by the *Arteria mesenterica inferior*, and this is the Vein which is so frequently subject to bleed; the external is a Branch of the hypogastrick Vein, and receives the Blood brought to the Anus and Muscles of the *Rectum*.

The Cause, either from the Disposition of the Humours.

As to the Cause, they depend either on the natural Weakness of the Parts, which makes them apt to give way to the Impression of Humours, or on the ill Temper and depraved Disposition of the Humours themselves, by which the natural Temper of the Parts is destroyed, and the Fibres relaxed, so that they give way to the Impression and Reception of those Humours which are not only superfluous in Quantity, but depraved and vitiated in Quality. If these Parts happen to be weak, and the parts of the Blood and Serum gross; they are subject to Tumour, but when those Humours which flow upon

upon the Parts are impregnated with ſharp and acrimonious Parts, they not only weaken the Fibres, but corrode and make a Solution of Continuity in the Capillary Veſſels, and cauſe an Extravaſation, ſo that the Veſſels frequently bleed.

Or the Weakneſs of the Veſſels.

But beſides the Groſſneſs of the Blood, and Acrimony it ſometimes acquires, which cauſe a Tumour or Extravaſation. Theſe Accidents may be promoted, and the Parts rendered more lyable to ſuch Diſeaſes; firſt by the Laxity and particular Structure of the Parts; theſe Veſſels being not equally ſupported by the Compactneſs of the adjacent Veſſels, which makes them more ſubject to give way to the Preſſure of the Humours contained in them. Secondly, The Blood is more apt to diſtend the Veſſels, they having no Valves to ſupport the Weight of Blood, and hindering it from preſſing upon the Extremities of the Veſſels. Thirdly, The natural Moiſtneſs and Laxity of the Parts by a conſtant afflux of Humours, makes the Fibres of theſe Veſſels leſs able to reſiſt the Influx of the Humours contained in them, for which reaſon they are apt to grow looſe and ſpongy. Fourthly, the Weight of the Inteſtines, preſſing upon the Veins of the Meſentery, obſtructs and hinders the aſcent of the Blood, which not only makes them more apt to tumify, but the Veins not readily diſcharging the Blood, or receiving it from the Arteries, there is the greater Force of Humours upon the Extremities of the Veſſels, by the Force of arterial Blood, which make them more apt to give way to Extravaſation or Tumour.

When the Coats of theſe Veſſels, by a conſtant Flux of Humours, which by their Groſſneſs obſtructs them, and by rendering them lax and apt to diſtend, promotes that Tumour, grow thick

and ſpongy, the acrimonious Particles of the Blood inſinuating themſelves into the Pores of the Veſſels, fret and weaken their Fibres, ſo that at laſt they give way to the groſſer Humours; whilſt the tumifyed Veſſels themſelves appear blewiſh, and like a Bunch of Grapes.

Differences. Theſe Varicoſe Tumours of the Hæmorrhoidal Veſſels differ, either eſſentially or accidentally. They differ eſſentially; Firſt, As the Veſſels themſelves are only tumifyed, or as they are attended with a Tumour of the Parts adjacent, or the Adhæſion of ſome adventitious Subſtance. Secondly, As they are only tumifyed without Bleeding, which are called Hæmorrhoides cæcæ, or as they not only tumify and diſtend, but open and bleed, which are called Hæmorrhoides apertæ. They differ accidentally, according to their Bigneſs, Number and Figure, or as they are periodical or uncertain.

The Diagnoſticks. As to the Signs of theſe Tumours, they are apparent of themſelves, it being evident to ſight whether the Tumour be a Vein diſtended, or of any other kind; and it is manifeſt whether they be cæcæ or apertæ by their bleeding or not bleeding.

The Prognoſticks. When the hæmorrhoidal Veins bleed moderately, they are wholeſome, and prevent ſeveral Diſtempers by diſcharging groſs fœculent Blood; but if they flow immoderately, they make the Perſon weak and faint, and ſubject to a Cachexia or Dropſy, *&c.* whence it is dangerous to provoke them leſt they flow too much; and of ill Conſequence to ſtop them, leſt diſtempered Humours be retained.

If the Hæmorrhoides Cæcæ are painful, and not timely remedied, they are dangerous, leſt by a Flux of Humours Inflammation and Apoſtemation be occaſioned. Thoſe near the Neck of the Bladder

der are alſo troubleſome, occaſioning frequently Inflammation and Strangury.

In the Cure of the Hæmorrhoides Cæcæ, ſince they are occaſioned by Cocochymical and ill depraved Humours in the Blood, a convenient Diet is in the firſt Place to be obſerved, which is to be regulated according to the Temper and Diſpoſition of the Humours in the Body affected with them; and ſince the Humour is impregnated with hot and acrid, as well as groſs Parts, their Diet ought to be ſuch as may attenuate and dilute, as well as cool and moderate, the inflammatory Humour. And ſince thoſe that are troubled with this Diſeaſe are ſubject to be coſtive, which makes it both troubleſome and painful voiding Excrements, they ought to make uſe of ſuch things as may incline and diſpoſe them to a contrary Diſpoſition, which if it cannot be done by Diet it is to be promoted by Clyſters of ſuch Ingredients as are emollient and laxative. All ſalt and ſharp things are to be avoided, which would add to the Acrimony of the Humours flowing to the Part, and render them more painful. And as there ought to be a due Regimen in Diet, ſo their Drink ought alſo to be regulated as the Circumſtances of Nature indicate; and ſince the Humours which inflame the Parts are acrid and hot, it ought to dilute thoſe acrid Salts, and diſpoſe them to go off by Urine or Sweat; to which purpoſe a Decoction of *Sarſaparil. Guaj. ac.* &c. may be made for common Drink, or by mixing *ſuc. Lig.* or ſuch like with the foreſaid Ingredients, thoſe lenient Pectorals will not only abate the Acrimony of the Humour, their mucilaginous Parts interpoſing betwixt and dulling the Edges of their ſharp Parts, but will likewiſe prevent the Body from being coſtive, whilſt the other Ingredients carry off the hot diluted Salts by Diapho-

The Cure, with reſpect to the Humours within.

Diaphoreſis, and prevent their afflux to the diſeaſed Part.

The Humour being thus checked by proper Diet, and the Body kept open by Clyſters, to haſten the Diſcharge of this acrid Phlegm, which affects the part, lenient Purgatives are alſo convenient. Revulſion is alſo to be made, and the Veſſels emptyed by bleeding, to prevent or abate Inflammation.

With reſpect to Externals. External Medicines proper in theſe Caſes, if the Tumour be external, are ſuch as by their Aſtringency contract the parts, and by that means not only repel the Humours already lodged in the part, but alſo prevent the influx of more, as, ℞ *fol. Plantag. polygon. ſumm. rub. equiſet.* āa. *M. j. fol. Verbaſc. M. ij. ſem. lini.* ℥ij. *fl. roſ. rubr. Cort. Granator. baluſt. myrt.* āa. ℥vj. *coq. in q. ſ. aq. font. f. fomentatio.* After the Uſe of this Fomentation, apply a pledgit of *Unguent populeon. cum pulv. ſub. uſt.* which is to be renewed twice a Day.

To eaſe the Pain. If the Pain be very violent, it may be relieved by Emollients and Anodynes, as, ℞ *fol. malv. verbaſc. M. j. fl. hyperic. M. ſs. Rad. Cynogloſs.* ℥ij. *ſem. lini. fœnugr.* āa. ℥vj. *ſem. Althææ* ℥ß. *coq. pro Fot.* or ℞ *ol. hyper.* ℥j. *Op. gr.* viij.

What is to be done when they are internal. If the Piles be internal, emollient Clyſters are proper to eaſe their Pain, and to diſcuſs the Humour where Repellents cannot be conveniently applyed.

Diſcutients, when neceſſary. When the Humour which produces them is thick and viſcid, Diſcutients which ſeparate and divide its parts, and render it apt to be diluted by freſh Serum, are to be made uſe of, as *rad. Chelidon. Gladeol. cæpæ allium.* &c. in the Form of Fomentations.

Aſtringents proper. If the forementioned Applications are not effectual, ſtronger Aſtringents mixed with Diſcutients will

will be proper, to diſſolve and attenuate the Humours contained in the relaxed parts, whilſt the Aſtringents contract the diſtended Fibres, and contribute to recover their loſt Tone, as *Bol. Armen. Calx lot. Croc. Mart. alum. axung. porcin.* &c. If the Piles be external, and are not to be relieved by any of the above-mentioned Medicines, and are conſiderably large and pendent, they may be cut off.

What is to be conſidered in the Hæmorrhoides Apertæ.

The Hæmorrhoides Apertæ are not to be ſtopped as long as the Patient bears their Diſcharge without weakening and impairing his Strength, ſince they diſcharge a groſs phlegmatick Blood which might occaſion other Diſeaſes; but if they flow not in a ſufficient Quantity they are rather to be provoked, by ſuch things as ſtimulate the *Rectum*, and fret the Extremities of the Veſſels, as, *Aloes. Scammon Colocynth.* &c. Or, ℞ *fellis Bovin.* ℥j. *aloes* ℥ij. *acet. acerrim.* ℥ij. *M. pro Injectione*; or, ℞ *pulv. Colocynth.* ʒiij. *amygd. amar.* ℥j. *mel. deſpumat.* ℥ij. *f. Suppoſitorium.*

When they are apt to bleed immoderately, the Acrimony of the Humours is to be corrected by a regular Diet, and Revulſion is to be made by Bleeding, Cupping, and Ligatures made on the remote parts; the depraved Craſis of the Blood is alſo to be corrected by internal Medicines, and thickened and incraſſated by altering the Diſpoſition of the Humours, and depreſſing the Ferment of the Blood, by Juleps ſweeten'd with *Syrup. de ſuc. Citri. Cydon. de roſis ſiccis*; or, *myrt. pulv. biſtort. tormentil. lap. hæmatitis, ſang. Draconis, troch. de terra Lemn. C. C. uſt. bol. armen.* may be likewiſe given, made up into the Form of an Electuary, with any of the before-mentioned Syrups, adding *Gum. Arab. pulv.* or *Tragacanth* and *Olibanum*, or, ℞ *Croc. martis aſtring.* ℈j. *Diaſcord.* ʒß. *M. Theriac. Venet.*

Venet. Laud. &c. are alſo convenient, Opiates checking the preternatural Ferment of the Blood, and diſpoſing the Humours to go off by *Diaphoreſis*, whilſt the Aſtringents and gummy Medicines thicken the Blood and Serum. Aſtringents are alſo to be applyed externally, as, *Cort. granator. pulv. baluſt. Thus Maſtich. N. Cypreſs. gallæ gum. tragacanth.* &c. made into the Form of Suppoſitories with the White of an Egg; or they may be externally applyed on pledgits of Tow; or *ol. Terebinth.* may be either injected, or pledgits dipped in it applyed externally.

CHAP.

CHAP. XXVII.

Of Fungous Tumours or Excreſcence about the Anus, viz. *Condyloma, Ficus, Criſtæ, Thymi,* &c.

THE parts about the Anus are ſubject to ſeveral fungous Tumours or Excreſcences, which from their Similitude to different Things are called by different Names.

Condyloma riſes from a ſoft round Tubercle diſtending the internal rugous Coat of the Anus, without Pain, or Alteration of Colour in the Cutis, and as it increaſes it grows carnous. If it be prolonged, and grows pendent reſembling a Fig, it is called *Ficus.* *Deſcription of a Condyloma.* *Of a Ficus.*

Criſtæ are hard Excreſcences, which riſe in the Form of a Cock's Comb, ſomething diſtant from the Verge of the Anus, and are uſually Symptoms of the Venereal Diſtemper. *Of Criſtæ.*

Thymi are hard Excreſcences, ſomewhat like Warts, which grow much like the tops of the Herb they take their Name from; ſome of which are benign, others malignant and cancerous. There are a ſofter ſort of theſe Excreſcences which are called Papulæ. *Of Thymi.*

Rhagades

Of Rhagades. Rhagades are Chaps or Fiſſures about the Verge of the Anus, proceeding from a ſharp fretting Humour, which hardens the Skin, and for want of Vent grows corroſive, and occaſions it to chap.

The Diagnoſticks. They are eaſily diſtinguiſhed from one another by their Appearance,

The Cauſe. Theſe Excreſcences owe their Origin to a vitious Appoſition of the parts of a groſs Humour thruſt out of the Pores of the Skin, and too thick to tranſpire through the Pores of the Cuticula. The Criſtæ and Rhagades are Symptoms of the Lues Venerea, that virulent Humour corroding the parts, and making them ſpongy, ſo that they are either totally deſtroyed in their Texture, or thruſt out an irregular Fungus, the ſpongy Veſſels ouzing out a thick Juice, whoſe parts adhere, and by an undue Appoſition increaſe the Fungus.

The Prognoſticks. The Thymi are the worſt ſort, and if not well extirpated grow cancerous. The other Excreſcences are eaſily cured.

The Cure. The Cure of theſe Excreſcences in the Beginning, is to be endeavoured by Aſtringents, as *Summit. Rub. Equiſet. fol. & bac. myrt. ſumach. Cort. Granator. baluſt. ſquam æris, calx. lot. alumen.* &c. in the Form of Fomentations or Powders, mixed with *Unguent Deſicativ. rubr. alb. camphorat.* &c. But if theſe are ineffectual, they are to be cut off, and the Roots deſtroyed by Eſcharoticks, or actual Cautery; and the Sloughs ſeparated, they are to be digeſted, incarned and cicatrized.

Of the Cure of Rhagades. In the Cure of *Rhagades*, the Callofity is firſt to be removed by Emollients, and then they are to be cicatrized. But if the part be affected with too

too much ſuperfluous Humidity, ℞ *fl. roſ. rubr. bac. myrt. ſum. Rub.* āa. *M. j. rad. Tormentil. Biſtort.* āa. ℥j. *alum.* ℥ß. *coq. in aq. Chalyb. ad* ℔ß. *ſub fin. addend. ſpir. Vin.* ℥iv. *f. Fomentatio.* After the Fomentation apply the following, ℞ *Lytharg. Ceruſs.* āa. ʒiij. *Sarcocol. Maſtich. Thur.* āa. ℈j. *Ter. ſigillat.* ℈ij. *ol. Roſar.* ℥j. *Ceræ q. ſ. M.* But if the Parts are too dry and hard, ℞ *Ping. Vitulin. gallin.* āa. ʒiij. *Lytharg.* ʒj. *M. pro Uſu.*

CHAP.

CHAP. XXVIII.

Of a Phyma.

Of a Phyma about the Arms.

The Prognosticks.

PHyma is a hot Tumour in the lower part of the Rectum, where the Elavatores Ani are inserted.

These often terminate in Fistula's. Those which happen internally, often extend their Sinuosity amongst the adjacent Muscles, and are most difficult of Cure. Those which are external also terminate in Fistula's, the Sinus, if neglected, growing callous.

The Cure.

Those Phyma's which are external are to be laid open by Caustick in due time, before they form a Sinus, that the Matter may be freely discharged; which could not be done so well by Incision, the Orifice being apt to close up again too soon. The internal are soon cured, if opened in the Beginning by Incision.

CHAP.

CHAP. XXIX.

Of Tumours of the Tonsils.

TUmours of the Tonsils increase gradually, without Pain, and when great, are frequently attended with a Catharrh, Cough, and difficulty of Swallowing.

The Cause of these Tumours are the same as of other Tumours in Glandulous Parts, *viz.* Gross and Superfluous Humours. *The Cause.*

When these Glands Tumify, they are of a round oval figure, without altering the Colour of the Skin, and of a very obtuse dull Sense. *The Diagnosticks.*

If the Tumour be small it may continue a long time without any inconveniency. If they be large and endanger Suffocation they may be removed without any great danger. *The Prognosticks.*

In order to the Cure, Bleeding is necessary to empty the Vessels, and prevent the Afflux of Humours, as also Evacuation by Lenient Purges, and Astringent Lotions; Derivation and Revulsion may also be made by Blistering, Cupping & Issues. But these Methods are most proper, when the Tumour is made by the sudden Afflux of Humours. When the Tumour is made by Congestion, it is to be removed either by Ascission, or Actual or Potential Cautery. If Actual Cautery is made use of, it must be passed through a Canula, two or three times, till a hole is burnt quite through the Body of them, which will shrivel them up. To Extirpate them by Potential Cautery, the Caustick Stone or proper Escharoticks are to be fixed in a proper Instrument to defend the Parts adjacent *Of the Cure.*

adjacent from the ſharpneſs of the Medicines. To Extirpate by Aſciſſion, a Ligature is to be made about the Baſis, Snipping them cloſe off with a pair of Probe-Sciſſors, taking care leſt you cut the Ligature at the ſame time, leſt it fall down into the *Trachea* and hazard choaking; to prevent which the Ligature is to be held in one hand, whilſt the Sciſſors are paſſed down cloſe by the Baſis, and the whole ſeparated at once, then pulling it out by the Ligature. If the Ligature ſlip off, it is to be taken hold of with an Inſtrument convenient, and armed with another Ligature, that it may be raiſed from the *Trachea*, and at the ſame time tyed again. The Gland being extirpated, the Flux of Blood may be ſtopped with a *Gargle* of *Oxycrate*, Cicatrizing it with the *Vitriol*. or *Alum Stone*.

CHAP. XXX.

Of a Ranula.

Deſcription A Ranula is a hot Tumour of the Salival Glands under the Tongue, which increaſing, fills up the ſpace between the Jaws, and appears externally under the Chin.

The Cauſe. It is occaſion'd as other Tumours of the Salival Glands by the Groſneſs of the Saliva.

The

The Tumour is ſoft and without Pain or Alteration of the Colour of the skin, containing a Matter much like the whites of Eggs. They are not dangerous but hard to Cure. *Diagnoſticks and Prognoſticks.*

In the Cure, the Craſis of the Blood and Serum is to be corrected and attenuated not only by proper Evacuations, but Internal Alteratives. As to the Tumour it ſelf, Diſcutients are proper; as ſpices which are warm, and Salts mixed in proper Liquors, or held in the Mouth in the form of Powders, as ℞. *pipe. is. Zinzib. ana* ℥i. *ſal. Commun. Gem. ana* ℈ii. *origan. Calaminth. rad. Ireos. Harmodact. ana* ℥ſs. *Maſtich.* ℈i. *M. F. Pulv.* Externally, Diſcutients alſo are to be applyed, as *Emplaiſt. de Ranis cum Mercurio* &c. If by this Method it will not diſcuſs, the Tumour is to be deſtroyed by Actual Cautery, dreſſing it afterwards with *Syr. de Roſ. ſiccis*, afterwards deterging it with *mel. Ægyptiac. in decoct. Beton.* then incarn and cicatrize. *The Cure.*

A

SYSTEM

OF

Rational Chyrurgery, &c.

PART. II.

CHAP. I.

Of Ulcers in General.

AN Ulcer is a Solution of Continuity in a ſoft Part, made by Eroſion with Loſs of Subſtance. But frequently Wounds made with a loſs of Subſtance degenerate into Ulcers; and though they differ from genuin Ulcers, in as much as the loſs of Subſtance is not made by Eroſion, but cut away; *Definition.*

way, yet when by the fault of Corrosive Humour, a further Erosion and loss of Substance insues, they then may be properly called Ulcers. An Ulcer is said to be made by a loss of Substance by Erosion in a soft Part, to distinguish it from that Erosion in Bones, which is called *Caries.*

Differences, Ulcers differ, either Essentially or Accidentally. Essential Differences are taken from their Figure, Magnitude and Equality or Inequality; as also the Difference of the Part affected, and the Nature of the Cause. As they are benign, malign, contagious or not. Accidentally, Ulcers differ as they are attended with Inflammation, Tumour or Putrefaction, as Phlegmon, Erysipelas, Cancer, Gangrene, Callus, Varix, or Caries. Besides these Accidents which are Complicate. there are others which are Symptomatical, as Pain, Pulsation, Pricking, Burning, Heat, Itching and Excoriation. They differ also according to the Time, as they are in the beginning, state or declination. They differ likewise, as they are Original, or the Event of another Disease, as Tumour or Wound.

Cause of Erosion. The Causes of Ulcers are either Internal or External. As to the Internal Cause, since an Ulcer is made by Erosion, it is evident, that it must depend on a too sharp and acrid disposition of the Humours; it being impossible for the Parts to be corroded, without such a sharp and corrosive Quality in the Humours, as may frett, separate, and divide the Parts of Solid Bodies, which are not only contiguous to one another, but also continuous, the Parts they consist of being united and joined together, by a firm and close contexture. How the Humours acquire this acrimonious

monious corroding Quality; and how it occaſions an Eroſion, I ſhall further Enquire. Firſt it is neceſſary we ſhould know what Humour it is that makes the Eroſion; and ſince it is apparent, that the Blood is contained in it's proper Veſſels, without Extravaſation, that cannot be the Cauſe eſpecially immediately; but ſince on the contrary, Ulcerated parts are plentifully watered with ſerous humours, the Serum of the Blood, muſt conſequently be the immediate Cauſe of Eroſion. Which as it is a conſtant habitual Humour of the Body, it is neceſſary we ſhould conſider how it comes to be too ſharp and corroſive, and how it happens to degenerate from it's Natural or proper Craſis.

How the Humours acquire an Eroding Quality.

The Serum of the Blood then may be inclined to ſharp and corroſive Diſpoſitions, either by the Hereditary Conſtitution of the Body, or an acquired Indiſpoſition. The Hereditary Conſtitution of the Body may incline a Body to ſharp acrimonious humours, when by the Natural conformation of the Veſſels, and the Depraved temper of the Succus Nutritius received from the Mothers Blood, a ſharp Diſpoſition of Humours becomes Habitual; and the Humours once impregnated with ſharp and acrid Parts, depraves and aſſimilates whatever is added afterwards, for the ſupply and conſtant Nouriſhment of the Body. An acquired Indiſpoſition may incline the ſerum of the Blood to a ſharp and acrid quality, when by Errors in Eating or Drinking, the Natural Ferment of the Stomach is depraved and perverted, the Victuals we eat or the Liquor we drink abounding too much with acrid Salts, by which the Chyle which ſupplys the Blood with ſerum, is thus vitiated. But beſides an Hereditary Indiſpoſition or an acquired one by the Faults of a depraved Appetite and Di-

geſtion in the Stomach, the Serum of the Blood may acquire a ſharp Corroſive Quality, when by reaſon of Indigeſtion, though there be no depraved quality in the Chyle, the Serum of the Blood is crude, and conſequently the Pancreatick Juice being not well digeſted, impregnates the New Chyle with it's depraved Qualitys; which at laſt growing predominant, by its conſtant Increaſe, and this crude acid, fettering and retaining the Cholerick or Saline parts of the Blood, which ought to be ſeparated as Excrementitious, the Serum of the Blood acquires an Acrimony.

How that Eroding Quality is diverſifyed.

Now when the Serum is thus depraved according to the difference of Conſtitutions, it is either more or leſs complicated with Phlegm, Choler or Melancholly, and conſequently it's acrimony is more or leſs benign, malignant or virulent, and occaſions Eroſion, and conſequently Ulcers either benign, malignant or virulent, as the Craſis and Diſpoſition of the different Conſtitutions tends to the Improvement of this Acrid Serum, of which we have given a large account before in the firſt Part, of the Cauſes of Cancers and other Corroſive Tumours.

But to proceed to the ſecond part of our Enquiry, *viz.* how this Acrimonious or Corroſive Serum occaſions an Eroſion, and conſequently an Ulcer, we are to conſider, that Ulcers are either Original or Accidental, and the Event of a Tumour or Wound.

The Formal Cauſe of Eroſion.

To make it appear then, how the Corroſive Serum produces an Original Ulcer, we may conſider, that as long as this vitiated Serum is mixed with, and ſwims amongſt, the Balſamick and Glutinous Maſs of Blood, its Edges are dulled, and it's Effects prevented by the Interpoſition of the particles of that Maſs; but when it comes to be

ſeparated

ſeparated from the Blood, and inſtead of circulating quickly paſt the Parts, and being interpoſed frequently by the Sanguineous balſamick Particles, it remains upon the Veſſels and hath power to act without Interruption, it not only acquires a further degree of Acrimony, the Acrimonious parts fretting and dividing one another, and conſequently making themſelves more minute, but by this acquired Acrimony and Subtlety, they are able to inſinuate themſelves, and penetrate into the pores of the Veſſels, and though of a Cloſe and Firm Contexture, by interpoſing betwixt their Parts, they ſeparate and divide them, deſtroy their Texture, and make a Solution of Continuity. If they are caſt out through the Glands of the Cutis, they looſing their balſamick mixture of the Blood, corrode the Cutis and cauſe an original Ulcer, being hindred from paſſing throngh the Pores of the Cuticula by ſome accidental Crudity, which was heaped up in the Maſs of Blood, for want of good digeſtion; how Crudities are bred in the Stomach and Blood hath been ſufficiently ſhewn in the Firſt Part.

The Formal Cauſe of Wounds, &c. degenerating into Ulcers.

From what has been ſaid of the Reaſon of Original Ulcers, the reaſon of theſe Accidental ones, which happen to be the Event of Tumours or Wounds, may eaſily be conceived, ſince this acrid Humour, being extravaſated in the Tumour or Wounds, and lying there, may eaſily acquire a further Acrimony, which will more readily promote the Eroſion of Veſſels, whoſe Texture was before in ſome meaſure deſtroyed or weakned by the proceeding Diſeaſe.

Thus

How External Causes may concur to the Production of Ulcers.

Thus much of the Internal Causes of Ulcers; as to the External Causes, a Corrosive Quality may be communicated to the Serum betwixt the Cuticula and Cutis by either Poysons, Corrosive or Caustick Medicines, actual Fire, or any hot and Scalding Liquor or Oyl, or contagious Diseases, as the *Itch*, &c. which impregnate the Serum of the Blood with hot corrosive Parts, which making a Solution of Continuity create an Ulcer, which if there be a predispos'd Humour in the Blood, Ulcerates more or less as that Humour is more or less benign or virulent.

The Difference of the Excrements of Ulcers.

Ulcers thus formed, according to the Different Nature of the Acrimonious humour, discharge a Different Excrement, and thence Ulcers are called either Sanious, Sordid, or Purulent.

Whether Sanious.

Sanious Ulcers discharge a thin Serous Humour or Sanies, or Ichor, and by some called Virus; and thence Ulcers are said to be Virulent, but Ichor seems more properly, the Gleet that flows from Tendinous and Membranous Parts, and virulent rather the highest degree of Acrimony, the Erosion being accordingly violent, and the Matter discharged fetid and putrid; but that which is properly sanies, proceeds from abundance of thin Excrementitious Serum, which renders the Ulcer moist, and is either hot and reddish, or cold and pale-Coloured, according to the Difference of the Constitution & Temper of the Patient, & as the Serum is impregnated with hot cholerick Salts, or depress'd & diluted with Phlegm.

Sordid.

If the Excrementous Serum be thick and gross, and makes the Ulcer foul, it is called Sordid, the Sordes differs as it is white or grey, and unequally coagulated, or as it is black and fetid: The Phlegm as it is impregnated with melancholly, acid, austere, or acrid and corrosive salts degenerating from the true Colour of Phlegm.

In

In some Ulcers the Excrement is neither so thin as a Sanies, nor so gross as a Sordes, but of a middle Consistence, being of a Greenish or Yellow Coulor, but commonly White, which comes neareſt to the Qualities of a Natural and good Serum, and these are called Purulent Ulcers. *Purulent.*

But an Ulcer may not be only Sordid, Sanious or Purulent, by the Condition of the Serum, but also by Accident, since by ill management a Sanious Ulcer way become Sordid, or by proper methods a Sanies may be turned into Pus; and on the contrary a Purulent Ulcer may be by ill management turned into a Sanious or Sordid one.

Since then the Nature of Ulcers may be thus changed, by Art or ill Accidents; that we may the better understand the Reason of these alterations we are to consider a little further the Nature of an Ulcer, and when the Erosion hath made a loss of Substance, how the excrement varys so much, since it is supplyed by the Serum of the Blood, which is of the same consistence in the same Person, whether the Ulcer be Sanious, Sordid or Purulent. *The Reason of the Different Excrements of Ulcers.*

To apprehend then the Reason of this we are to consider, that when by Erosion the Texure of the Vessels is destroyed, and loose their Continuity, the Parts of Matter, which when they formed solid Vessels, were at rest and void of Motion, being separated and mixed with Part of the Corroding Humours, which separated them, acquire a new form, and clog up and obstruct the Extremities of the small Capillarys, which if divided by any sharp Instrument would extravasate not only Serum, but the Blood it self, but being in a great measure choaked up with their own Ruins they are not able to discharge the Serum it self, but since the Serum is constantly pressed *of Sanious Excrements.*

upon

upon the Part by the force of Circulation, the thinner Part of the Serum is ſtrained out through the Extremities of the eroded Veſſels, and ſupplies that thin Sanious Excrement, which is reddiſh or pale Coloured, as it is Tinctured with the pureſt and thinneſt Parts of the Blood, or pure and unmixed; but,

Of Sordid Excrements.

When the Extremities of the Veſſels are ſo obſtructed, or the Serum of the Blood ſo groſs, as not to ſeparate it's thinner Lympha, the eroded Ruins of the Veſſels not being ſufficiently diluted, they form a groſs and thick fæces, which makes the Ulcer ſordid; but an Ulcer may not only be ſordid by thus obſtructing the Veſſels, and ſtopping that thin ſerous Gleet, but by the ill uſe of Applications, which by their Aſtringency or other Qualities, accidentally incraſſate the thin Humours ſeparated, and likewiſe bind up the Veſſels and ſo occaſion a Sordes.

Of Purulent Excrements.

How Purulent Ulcers diſcharge a good Pus of a due Conſiſtence will appear, when we come to explain the Nature of Digeſtion, it may be ſufficient here to ſhew, that the fæces made by eroſion being digeſted and diſcharged by dilating it and turning it into Pus, the Extremities of the Veſſels are more at Liberty, and are able to diſcharge more freely, the Serum contained in them, which makes the Excrement thicker, and more eaſily converted into Pus, as the Veſſels are clear of their Obſtruction.

But when an Ulcer is Putrid, it depends upon the depraved Qualities of the Humour, which violently erodes the Parts, and quickly diſpoſes them as well as it ſelf to Corruption.

As to the Diagnosticks, if an Ulcer be external it easily appears to sight, but if internal, it is known by the Excrements that flow from it, & the Symptoms that attend it. If Ulcers are deep or sinuous or carious, the use of the Probe will make it evident, and if internal are proportionable to the Quantity of Matter that flows from them, if Sanious the Gleet shews it; if the Lips be Jagged and Callous, it is Phagedænous or Virulent, if the Excrement be gross and slimy it is sordid; if corrupt and fætid, it is Putrid; if it spread and be superficial, it is a Herpes excedens. If a Nerve, Tendon or Ligament be affected, the acute Pain will make it appear. If the Pain be from a Nerve, the Limb is sometimes contracted, and Convulsions attend it, if an Artery be near, the Pulsation will be apparent. *The Diagnosticks.*

In Prognosticks, the Event is to be Judged of by the Quality of the Ulcer, the Part affected and the strength of the Patient. *The Prognosticks.*

Ulcers in the skin are not dangerous, but more difficult of Cure, according to the Intemperies. In the Emunctories of the Body, they are dangerous being near large Vessels, and difficult of cure by reason of too much Moisture. In the Muscles of the Spine and Back they are difficult to cure and dangerous, as also when near any Principal Part, which may be affected by them. In Parts of exquisite sense, as the Hands and Feet, which are full of Tendons, they are painful and hard to cure. Large and Deep Ulcers are dangerous exhausting the Spirits by their great discharge; and if they lye under any Nerve, Artery or Tendon, so that they cannot easily make a discharge, or safely be laid open, they are slow and difficult of cure. If the Ulcer be in a depending Part and the Body full of Humours, tho' the Quality of them be tolerable good, it is long in Cure;

Cure; as also if the Quality be ill, though the Quantity be small. When Ulcers by their long Continuance have destroyed the Crasis and Tone of the Part, they are incurable and dangerous.

What is to be considered in the Cure.

In the Cure we are to consider, whether the Ulcer be Simple or Compound. And since it is not only a Solution of Continuity, but also a loss of Substance, which is made by a Corrosive humour, the Solution of Continuity is not only to be reunited, by Restoring the Loss of Substance, but the Internal Indisposition is to be obviated by proper Medicines.

The Different times of the Ulcer considered.

If the Ulcer be simple, we are to consider the time of it, whether it be in the Beginning, Augment, State or Declination; but in the Cure of Compound Ulcers, several Indications offer themselves, according to the Variety of Symptoms that attend them. In the Beginning, the Crude and Waterish Serum is to be concocted and digested, and by the Use of suppuratives converted into Pus: but in putrid Ulcers Suppuratives are to be avoided, since they increase Putrefaction, and if continued too long in Purulent Ulcers they incrassate the Excrement too much, and render the Ulcer sordid; when an Ulcer is attended with pain, they not only digest the matter, but by their Lenient Qualities, correct the sharpness of the Humour and ease the Pain. In the Increase, when by the use of Digestives the Matter is converted into Pus, it grows thicker and less in quantity, and then the Ulcer is to be cleansed by the Use of Detergents. In the state, when the Ulcer is cleansed, Sarcoticks are proper to restore the loss of Substance; and in the declination, when it is filled with flesh, and sufficiently incarned, it is to be Cicatrized with Epuloticks. How Digestion, Detersion, Incarning, and Cicatrizing are performed, I shall endeavour to explain

explain, in each Particular Caſe, when I come to conſider the Nature of the Ulcer, and the Method by which theſe Intentions are promoted.

How ill Accidents are to be prevented.

But ſince an Ulcer is ſubject to Accidents and ill Symptoms, which are occaſioned by the Influx of ſharp corroſive Humours; before we can hope for ſucceſs in Curing the Ulcer, the Cauſe of of theſe Accidents, and of the Ulcer it ſelf, is to be removed out of the Blood, and the vitious depraved Temper of the Serum to be corrected and altered. So that in reſpect of the Cure of an Ulcer, there are ſeveral Intentions.

The First Intention.

And Firſt a convenient Diet is to be ordered, to correct and temper the ill Qualities of the peccant Humour, which is to be regulated according to the quality of the Humour, and the ſtrength of the Patient, neither too hot to inflame and exaſperate the Symptoms; nor too cold, leſt the digeſtion be hindered, and the Ulcer filled with Crudities; their Drink is alſo to be moderate in quantity, and tempered in qualities, as Neceſſity requires. As alſo the Air ought to be good, and Exerciſe moderated, as Reaſon and preſent Circumſtances give Occaſion.

The Second Intention.

The ſecond Intention reſpects the Antecedent Cauſe. Which is to be corrected, if it abound in Quantity, by Evacuation, by Bleeding, or Purging, or both, as the ſtrength of the Patient, and other circumſtances indicate, which diminiſhing the Quantity of the peccant Matter, it is not ſo plentifully thrown upon the Ulcered Part; Derivation may alſo be made, by Leeches, Cupping Glaſſes, Bliſtering Plaiſters, Ligature, *&c.* If the Antecedent Matter, which is alſo conjunct, as it ſupplyes the Ulcer conſtantly, be vitiated and much depraved, that Diſcraſy is to be removed by the Uſe of proper internal Medicines, which may reſtore the Blood

Blood and Serum to their Natural Crasis and Temper.

The Third Intention. The Third Intention regards the Part affected with the Ulcer, which is weakned by the Intemperies, and by that means rendered apt to yield to the Influx of depraved Humours. To prevent this, proper Astringents and Repellents are to be applyed in the form of Defensatives. The Parts are also to be guarded from the Influx of humours by due Position, and Expulsive Bandage.

The Fourth Intention. The Fourth Intention respects the Ulcer it self, which consists in a due Application of Medicines with regard to the several times of it, whether in the Beginning, Augment, State or Declination; as also the Accidents and several Symptoms that attend them. How these Intentions are to be pursued, and the Intemperies as well as the Ulcer are to be obviated, shall be accounted for, when we come to treat of each particular Species in it's proper Place.

CHAP.

CHAP. II.

Of a Simple Ulcer.

A Simple Ulcer is a Solution of Continuity made by Erosion, without any other Symptom or Accident attending it. From which Definition it may easily be known and may promise a good Prognostick. *Definition.*

In the Cure there are two General Intentions, *viz.* First, to restore the loss of Substance by a Generation of new Flesh; and Secondly, to unite the separated Parts by a Cicatrix. *The Intentions of Cure.*

In order to the first Intention, a regular Diet is to be observed, and a Moderate use of Non-Naturals; for since the Ulcer is not attended with Intemperies, if the Serum of the Blood be furnished with well digested Chyle, and the Natural Evacuations be continued, the Crasis of the Humours will be preserved, without the Assistance of Medicines, and the Tone of the Part preserved by a Moderate Supply of good and natural Juices, and the Ulcer well Digested, and easily disposed to heal. *The First Intention.*

Since then in these Simple Ulcers, Nature is not disturbed in performing her Part by depraved ill disposed Humours; nor interrupted with ill Symptoms; External Applications will have their regular effect either Digesting, Deterging, Incarning or Cicatrizing, as the time of the Ulcer, and Matter that floweth from it shall Indicate. *The Intentions differ according to the time of the Ulcer.*

Digestives when proper.

In the Beginning whilst the Extremities of the Vessels are obstructed by the Parts of those Vessels that are consumed by Erosion, and only issues out a Waterish Humour, Digestives are proper, whereby the Matter may be made thicker and turned into a laudable Pus, smooth and easy to the Part, and every day approaching nearer to the true Nutritious Juice. Medicines proper for this Intention are such as have Lenient Qualities, which are to be adapted to the Temper of the Part they are applyed to. In tender Bodies *Terebinth. cum farin. tritic. Croc. & alb. ov.* is sufficient, but in stronger Bodies *farin. hord. fabar. colophon, Thus, pulv. sem. fænugræci* may be added, and *mel. rosat.* and *Syr. de rosis siccis.* Or *Unguent. Basilicon.*

Why convenient in the Beginning, and how Digestion is promoted.

As for the manner, how these Medicines promote Digestion, to make it evident, it will be requisite to consider, First, the Nature of the Ulcer, and then the Nature of the Medicines applyed. As for the Nature of the Ulcer, from what hath been said in the the Chapter of Ulcers in General, it appears, that the thin Gleet in the Beginning is occasioned by the Obstruction of the Extremities of the Vessels, the thinner Part of the Serum being strained through the feces of the eroded Parts, which clogg up the Vessels, and cause that Obstruction; now since digestives are Balsamick, Emollient and Astringent, the Balsamick Medicines consisting of warm Parts, which omit very volatile and odoriferous Effluvia, it will be Reasonable to suppose, that when these Medicines are applyed, that the Astringency contributes to the thickning of that eroding Humour, which Gleets in the Ulcer, since Astringents mixed with Acids are easily converted into Mucilage; but they not only are serviceable in thickning this thin Humour, but by imbibing it's

sharp

ſharp eroding ſalts prevent a further eroſion of the Parts, whilſt the Lenient and Balſamick Parts alſo interpoſe their good Qualities, and dull the Edges of the Eroding Humour, and likewiſe help to incraſſate and thicken it; and by impregnating it with their ſoft Balſamick Parts, make it ſoft and ſmooth and eaſy to the Parts, whilſt the Emolient Balſamick Qualities have this good Effect alſo, to ſoften and looſen the feces, which obſtructed the Veſſels, which alſo are waſhed away by ſucceeding Serum, preſſed out of the Veſſels. But beſides their thickning, this thin Humour thus, and preventing the further Eroſion of the Parts, they have another good Effect, which is by their volatile Effluvia and warm Parts to impregnate the Serous Gleet, and likewiſe the eroded feces, and by that means the Parts of the feces being ſeparated and divided, they are more apt to incorporate with the reſt of the Humours.

Thus by degrees this thin Gleet does not only grow thicker and mild and more Balſamick, looſing it's corroſive Quality, but alſo the feces of the eroded Veſſels being gradually digeſted by the warm Parts of the Medicines, the Veſſels become by degrees leſs and leſs obſtructed, ſo that inſtead of a thin Watry Humour they are able to diſcharge the thicker Serum, which is more readily incraſſated and digeſted by the mixture of the parts of the Medicines, and turned into Pus.

That theſe Digeſtives may have a better Effect in concocting and altering this Humour, and bringing it to a good conſiſtence, they ought to be of a moderate conſiſtence themſelves, and not too thin and liquid, leſt they run off the Pledgits, and leave them bare upon the Ulcer, and ſo fret and inflame the Part. In deep Ulcers they ought to be of a thinner Conſiſtence, that they may the better affect the Bottom of it. They

are to be applyed upon Pledgits, Dossils or Tents, according to the depth and nature of the Ulcer, with covenient Defensatives over them, to preserve the Temper of the Part & prevent Fluxion.

Detergents when proper and how they produce their Effects.

In the Augment, when the Matter is well digested, the use of these Medicines is to be forborn, for by the too long continuance of them, the Matter is thickned too much, and the Ulcer made sordid. The Matter therefore of the Ulcer being well digested, and of a due consistence, Detergents are to be mixed with Digestives, as, *Terebinth. lot. in aq. acetos.* ℥iv. *suc. apii* ℥vi. *coq. ad consumpt. succi, deinde add. vitel. unius ovi.* or *Mund Paracels.* may be applyed ; or *Basilicon* with a sufficient Quantity of *Mercur. pracip. rubr.* with which you may Digest, Deterge or Incarn, as the Quantity of the *Pracip.* is more or less. When by the use of these sharp biting Medicines the gross Phlegm, and Spongy Flesh which rose in digestion, are fretted away, and the Flesh appears of a Ruddy Colour, the eroded Vessels digested and converted into *Pus*, being likewise worn away, and nothing but firm Flesh remains, the Ulcer being

Sarcoticks when to be used.

In the state, we are to make use of Sarcoticks ; which are to be moderately drying, and not too sharp, lest by fretting to much, they destroy and consume instead of promoting the Generation of Flesh ; and as they are not to be too dry and fretting, so neither are they to be too moist, lest they suffer Fungous Flesh to rise, or digest, and corrupt the sound Flesh. In soft and tender Bodies mild Sarcoticks are to be made use of, as *Olibanum Thus, Aloes, cort. Thuris. farin. fenugrec. orobi.* &c. *Basil. Diapompholygos, Unguent. Tutia. Calaminaris,* &c. Or ℞. *Myrrh. Aloes ana* ℥ss. *Thuris* ℥i. *Mastich.* ℥ss. *gum. Elemi* ℥iii. *Terebinth. venet.* ℥iv. *ol. Hyperic. q. s. f. Unguent.*

guent. Stronger Sarcoticks are, *rad. Ireos. Ariſtoloch. rot. farin. Lupin. Sarcocol. aſſa. fœtid.* made up with *mel. deſpumat.*

How Nature performs her Part in healing.

Though Medicines applyed may promote the Generation of Fleſh and help Nature, yet ſince to make that Fleſh which ſupplies the Loſs of Subſtance in Ulcers, is the Work of Nature, we ſhall endeavour firſt to ſhew, how Nature performs her Part, and then how ſhe is aſſiſted by Art. And Firſt, when by the uſe of detergents the fæces and ſpongy Parts are fretted away, if the detergent be ſtrong, the Extremities of the Veſſels, which ouzed out the thin Gleet, & afterwards the Serum which afforded the Excrementitious *Pus*, are ſo far clear and open that even drops of blood appear in their ſmall Cavities. Now as the Parts of Blood and Serum are confuſedly jumbled together in Circulation, it muſt follow that the Serum interpoſed betwixt the Parts of the Blood poſſeſs ſuch a ſpace, that if they could be taken away, and the Parts of the Blood continue in the ſame form and place, as when the Serum was interpoſed, there would be a great many pores and cavities, communicating one with another in that Bloody Subſtance, which would be as ſo many Veſſels or Pipes, for the Paſſage of another Liquor, could but thoſe particles of Blood adhere together in ſuch a form, and acquire the firmneſs of a Veſſel. If this were poſſible it were no difficulty to Imagin how thoſe drops of blood in the Extremities of the Capillarys, adhering to the ſides of thoſe Minute Veſſels might be condenſed and hardened, and by that Appoſition of parts, make a prolongation of the Veſſels, whilſt in the mean time the Serum betwixt their Parts would mould, and form a Cavity, and continue Liquid in it; ſince the Blood is apt to coagulate, the Serum continuing fluid. Now if the Serum thus formed

a Cavity for it self, the stringy Parts of the Blood adhering and forming a Vessel, it would follow that subsequent Serum might distend and stretch that Cavity and make it fit to receive Blood, which rising through the Pores of the new made Vessels, make a fresh apposition of Parts and so continue the Work of Incarning, the Blood still appearing upon the surface of this new made Flesh, as it did at the first upon the surface of the Original Vessels.

That the Work of Incarning is thus performed, I am the more reasonably encouraged to believe; First, because the difference betwixt a Solid and a Fluid is nothing, but that the Parts of a Solid are at rest, and without Motion, and that the Parts of a Fluid Body are in Motion. Secondly, because the work of incarning must be done by an Apposition of Parts of some Humours, which first adhering to the original Vessels, and then to one another, must form a Continuity, and grow solid, for as much as being at rest they loose their fluid Quality and acquire a solid Quality. Thirdly, because there is no other Humour but Blood and Serum, to make that Apposition; and that the Blood is more viscid and tenacious, and apter to adhere in such a Continuity than Serum, which remains fluid, when out of the way of Circulation, whereas the Blood soon inclines to a solid form, when it hath lost it's Natural Motion of Parts, which are continued in Circulation. Fourthly, because when an Ulcer is incarning, the Serum is constantly issued out and supplyes the Matter of *Pus*, whereas the Blood is retained within the new prolonged Vessels.

If any one ſhould ask, how this Blood muſt be continued in circulation, if contained in ſuch ſort of Veſſels, it may be anſwered, that ſince they have a Communication with one another, and that the Extremities of Veins as well as Arteries are open upon the ſurface of the Original Veſſels, the Blood forced from the Arterial Capillarys, preſſes it's Current through Lateral Communications, till it enters the Orifices of the Veins. *An Objection conſidered.*

Thus much being ſaid of the manner of incarning, we ſhall next conſider, how Medicines may aſſiſt ſimilar Parts in making a ſimilar Appoſition; In order to apprehend that, we may conſider, what Qualities theſe Medicines have, and conſequently it will appear, how thoſe Qualities may contribute to this Intention of Nature. And firſt, ſince theſe Medicines are of a Gummous and Rezinous Quality, as well as warm and Aromatick and drying, they ſtill ſerve to preſerve the Matter of the Ulcer in a due degree of thickneſs and ſoftneſs, that it may lye eaſy and Balſamick upon the new Veſſels, without corroding and fretting them, whilſt by the warmneſs of their Parts, they preſerve the Natural Heat in the Part, and by their drying and bitter Qualities, they check and reſtrain the too quick growth, and riſe of this new fleſh, which would otherwiſe grow looſe and ſpongy, the Veſſels being prolonged faſter than they could grow firm and hard; ſo that when they come to harden and ſhrink afterwards, the Fleſh feels loſe and ſpongy, but by virtue of theſe drying Medicines, they grow no faſter than they can be confirmed and hardened as they increaſe. But care muſt be taken, that theſe Medicines be not too drying, leſt on the contrary they contract, if not corrode, *How incarning is promoted by Art.*

the new Veſſels, and make the Ulcer diſcharge a thin Gleet again and render it Sanious.

When Cicatrizing Medicines are to be made uſe of.

The next thing to be done, when the Ulcer is incarned, in the Declination, is to Cicatrize; and ſince nothing but the Serum is diſcharged from the New Veſſels, the Medicines made uſe of to this purpoſe muſt be Aſtringent and drying, imbibing the Superfluous Moiſture of the Serum, and by that means diſpoſing it to grow groſs, and apt to harden and form a Callus; being alſo thickened by the Aſtringency, which alſo imbibes moiſture and helps to form the Cicatrix.

Moderate Cicatrizing Medicines are, *Bol. Armen. Sang Dracon. Creta. pulv. oſtreor. combuſt. roſ. rubr. baluſt. ſumach, calx lota, ceruſſa, plumbum uſtum, tutia*, out of which Compoſitions may be formed and uſed, either in the form of powder or decoctions; out of which Pledgits may be wrung and applyed to the Part. If ſtronger Medicines are required, *Sacchar. ſaturni, vitri. Roman. æs. uſt. ſquamme. æris, ferri, croc. Mart. aſtringent.* &c. or, *Unguent. Calaminaris, Emp. Griſeu. ana* ℥i. *Liniment. Arcæi*, ℥ſs. *Sacchar. Saturn.* ℈i. *cere. q. ſ. f. Emplaſtrum.* But ſome of theſe Medicines if too ſtrong, or made ſo by being applyed in too great a Quantity, they inſtead of hardening the Serum into a Callus, corrode and conſume the fleſh.

As for the time, when Epuloticks are to be applyed, it ought to be when the fleſh begins to riſe near the Lips of the Ulcer, that the Ulcer may begin to Cicatrize from the Edges; for if the Fleſh riſe too high you will be forced to uſe Eſcharoticks to take it down again. If the Lips of the Ulcer lye not even with the Ulcer, it will not eaſily Cicatrize, therefore they are to be kept down by Compreſs and Bandage.

CHAP.

CHAP. III.

Of Ulcers with Intemperies.

AS it seldom happens that an Ulcer is without some Disease complicated with it, so it acquires different Names, according to the Difference of the complication; hence from a particular Indisposition of the Humours in General, or of some part, whose weakness inclines it to receive ill tempered Humours, an Ulcer is said to be with Intemperies. *Of Ulcers with Intemperies.*

Ulcers with Intemperies differ either as they are Simple or Compound. The Simple are, Hot, Cold, Moist, and Dry, The Compound are when two of these happen to be complicated together. As Hot and Moist, or Dry, *&c.* *How they differ.*

A hot Intemperies may be occasioned either by a particular Habit of Body, and Dyscrasy of the Serum of the Blood; or may be acquired by a particular Diet and manner of Living; or may be occasioned Accidentally by external Heat, or the Application of hot Medicines, or by keeping the Part too hot with Cloaths or Rowlers, or lastly, the part may be heated with ill Bandage. *The Cause of a hot Intemperies.*

Of a cold Intemperies. A Cold Intemperies may either proceed from a particular Habit of Body, which depends on the Natural Conſtitution of the Perſon; or elſe it may be acquired, by ill Diet, or occaſioned by accident; as keeping the Part too cold, for want of Cloaths, or for want of Compreſs and Bandage, or by the uſe of too cold Medicines.

Of a Moiſt Intemperies. A Moiſt Intemperies, is either Habitual, or depends on the weakneſs of the Parts; and frequently is occaſioned by wet and foggy weather, or the fault of Bandage, either retaining it, or not expelling and defending the Part from its Influx.

Of a dry Intemperies. A Dry Intemperies may be occaſioned, by exhauſting the Spirits, by Chronick Diſeaſes, Hectical Indiſpoſitions, or too ſparing Diet; or by emaciating the Part.

The Diagnoſticks. If the Intemperies be hot, the Ulcer and adjacent Parts are red, and a ſenſible Heat is perceived in the Ulcer. The Matter being ſharp cauſes a pricking, burning, or itching in the Part. They are releived by cooling, and exaſperated, by hot Medicines.

In a Cold Intemperies the Ulcer is Livid and Pale, and the Fleſh alſo livid and looſe; and is relieved by heating Medicines.

A Moiſt Intemperies is evident, by the great Humidity, and the Fleſh ſpongy and flaccid.

In

In a Dry Intemperies, the Habit of the Body is lean, and the Part affected Dry and Squalid, and the Lips of the Ulcer thin and lank.

Compound Intemperies may be known by the signs of the simple.

Prognosticks. Ulcers attended with Intemperies are difficult of Cure, as the Intemperies requires time to remove it; and therefore the Dry Intemperies is the worst, requiring the longest time to relieve it.

Of the Cure of a hot Intemperies. In the Cure of Ulcers with Intemperies, that Intemperies is to be removed, before success can be hoped for. Astringents and Repellents are proper to cool the Part, and defend it from the hot Humour. Also a cooling and moist Diet is to be observed. If there be a Plethora, Evacuations by Bleeding and Lenient Purging are Convenient. External Topicks ought to be cooling and moderately drying, to allay the heat and imbibe the hot sharp Parts, or dry up the Superfluous Moisture, as *Basil. cum præcip. rubr. Unguent Diapompholyg. Tutiæ. album. Unguent. e Plumbo & Calce.* which both correct the Heat by their evident Cooling Qualities, and absorbe and imbibe the hot acrimonious Parts. To check the Intemperies of the Part, Defensatives may be applyed, made of *Unguent. alb. camph. emp. diapalm. cum succis, Unguent. Refrig. Galen. Nutritum*, or *Populeon*, which with the addition of Wax may be made into Cerots, over which Compresses wrung out of Oxycrate, or red Wine, or *Suc. fol. plantag. polyg. lactuc. burs. Pastor. cum Acet.* or *flor. ros. rubr. balust. bac. myrt. sumach.* &c. Decocted in red Wine.

Of a Cold Intemperies.

In the Cure of an Ulcer with a Cold Intemperies. Diet is to consist of such things as are of good Nourishment, and warming and corrected with spices. The Crude Humours are also to be discharged, by Purging, and the Constitution of the Blood and Serum, altered and corrected by proper Internal Medicines. External applications ought also to be warm and attenuating, to give vent to the crudities by perspiration, as *Decoct. Absinth. scabios. Agrim. salviæ, beton. fl. cham. bac. Laur. Junip.* adding Wine or *Spr. Vin.* which is to be applyed hot with Stupes. The Ulcer ought to be dressed with Detergents, first to cleanse it of gross Humours or Phlegm, before it will incarn and cicatrize, as *Mundif. ex Apio. Paracels. Unguent Apost.* laying *Emp. Diachyl. Ireat. de Betonica, Barb. magn.* or *flos. Unguent.* over all, then Incarn and Cicatrize with Pledgits pressed out of a solution of *Sacchar. Saturn.* in Spirit of Wine.

Of a Moist Intemperies.

In the Cure of an Ulcer with moist Intemperies, the Diet is to be considered and tempered accordingly, and a *Decoct. Sarsaparil. sassopras. Lign. Guaj. Rad. Chin.* &c. may be used for common Drink. Externally Astringent Repellents are proper to strengthen and contract the Part, that it may be less apt to receive superfluous Moisture. The Part may also be fomented with a Decoction of *Summit abs int. fol. Beton, fl. ros. rubr. sum. rubi. bac. myrt. N. Cypress. balust.* &c. in Wine or Oxycrate, which likewise strengthen the part and discuss as well as repel superfluous Humours. In dressing the Ulcer it self, *Unguent. Diapompholyg. Tutiæ, Nutrit. alb. cam. desiccativ. rubr.* are convenient, or ℞. *plumb. Ust. Diapompholyg. lot. ana* ℥i. *ol. Myrt. et cera q. s.* or ℞. *Cadmiæ.* ℥i. ſs. *erug. æris. combust. ana* ℥ii. *alum. scissilis.* ℥ſs. *ceræ. Nov.* ℥v. *sev. arietis. q. s. m.*

Also

Alſo *Aq. Calcis*, and *aq. Aluminoſa.* are proper to dry up the ſuperfluous Humidity in Ulcers or the Parts about them.

Of a Dry Intemperies.

In the Cure of an Ulcer with Dry Intemperies, the Intemperies is firſt to be removed; the Ulcer in the mean time being dreſſed with digeſtives and kept clean. The Diet ought to be ſuch as is eaſy of Digeſtion, and affords good nouriſhment, and their Drink alſo plentiful and good, the Humours are to be encouraged to flow to the Part with Friction, warm Fomentations, Embrocations &c. which are to applyed Warm till the Parts look red and begin to tumify. The Influx of Humours are alſo to be encouraged with Emollients, which may relax the Part and give way to the Influx of Moiſt Humours of ſuch Fomentations ought to be made, and the Medicines applyed afterwards ought to be of the ſame Nature, as ℞ *ſuc. biſmalv. parietar. ana* ℥ii. *ol. amygd. dulc.* ℥vi. *ceræ. q. ſ. f. Cerot.* The Ulcer is to be dreſſed with *Baſilic.* and *præcipit. rubr.* with which, in different Proportions, you may alſo deterge and incarn, or ℞ *Thur. Maſtich. ſarcocol ana* ℥i. *ol. Hyperici.* ℥ii. *Terebinth. Venet.* ℥i. ſs. *ceræ. alb. q. ſ. m. f. Unguent.* In the Cure of theſe Ulcers care muſt be taken, not to make uſe of Applications too drying, leſt the Intemperies in the Part be renewed again, and the Cure by that means prolonged. When the Ulcer is well digeſted, and deterged, proceed to incarn, and cicatrize with convenient Epuloticks.

CHAP.

CHAP. IV.

Of Ulcers with Pain.



When an Ulcer is attended with Pain it prolongs the Cure, and excites ſeveral Accidents, as Fever, want of reſt, and exhauſting of the Spirits.

The Cauſe of Pain in Ulcers.

The Cauſes of Pain, are a ſharp Acrid Humour, corroding the Ulcer, and Inflaming the Parts about it; depending either on an Habitual ill Craſis of the Serum; or acquired by the fault of digeſtion, vitiated by ſharp and acrid Salts depravating the Natural ferment of the Stomach; or it may be occaſioned by the ill uſe of external Applications; as for want of digeſting the Ulcer in time, or by continuing the uſe of detergents too long.

Pain

Pain wants no other Diagnosticks than the Sensation of it, which is known by the Complaint of the Patient. Whence and from what Causes, that Pain proceeds will appear from the Symptoms.

The Intentions vary according to the Cause.

In the removing of this Pain, the Intentions vary according to the Difference of the Cause. If it proceed from a Plethora or Cacochymia or both of them. Bleeding and Evacuation by Purging are requisite, to make a Revulsion, and to discharge Part of the peccant Matter, that the rest being more easily diluted, and altered, may relieve the Pain to which purpose, cooling Emulsions and Juleps and the use of Opiates, will contribute; as also a due Regimen in Eating and Drinking, *&c.*

Internals.

Externals.

Externally the Pain is to be removed by proper Anodynes. If it be Sanious, Digestion is to be promoted, and Lenients applyed to the Parts about the Ulcer, as *Nuc. sem. cydon. Pssllii, Althæa extract. in decoct. Malv. & farin. hord. Croc. cum Vitel. ov. exung. porcin. gallin.* in the form of Cataplasms, or with Wax, made into Cerots, or *Ceratum Galeni. Unguentum Populeon, Nutrit. alb. camph.* or *emp. de Bol.* some of which by their Lenient Qualitys, interpose their soft *Effluviums* betwixt the sharp particles of hot Humours, and by dulling their Edges allay the Pain; others, by their cooling Qualities and Astringency repel the hot Humour, and allay their violent ferment by cooling the Blood and Serum.

If the Pain proceed from hot acrid Humours corroding the Ulcer, it may be dreſſed with *Unguent. Diapompholyg.* or *Unguent. Tutiæ*, with *Baſilicon*, and a little *præcipitate*, with Compreſs wrung out of Oxycrate or red Wine; which will imbibe and allay the Heat of corroſive Parts in the Ulcer, and allay the heat of the Parts alſo, and by ſtrengthing their Tone make them leſs ſubject to the Influx of thoſe Humours.

If Pain be occaſioned by ſordid Humours in the Bottom of the Ulcer, it may be deterged with *Præcipitate*, and thus the Cauſe being removed the Pain will be relieved.

CHAP.

CHAP. V.

Of Ulcers with Fluxion.

AS Pain, ſo Fluxion is commonly the Attendant of Ulcers.

The Cauſe of Fluxion.

The Cauſes of Fluxion are either the Quantity or Quality of the Humours, or the Fault of the Part affected. The Quantity of the Humours are the Occaſion of Fluxion, when by reaſon of a *Plethora*, the Veſſels in general are Crowded with Humours, and much diſtended, ſo that if they be any way obſtructed in their Motion, they preſently diſtend and Tumify the Veſſels in that Part, the reſt of the Veſſels being ſo full of Humours themſelves, as not to be able to receive the Humours obſtructed in their free Paſſage in theſe; ſo an Ulcer having corroded and deſtroyed ſeveral Veſſels, thro' which the Humours ought to Circulate, the large Veſſels carry ſo much Blood into that Part, that the reſt of the Veſſels being already full, are not able to relieve theſe corroded Veſſels, and conſequently, they not only ſwell and tumify, but diſcharge a greater Quantity of Humours into the Cavity of the Ulcer. The Quality of the Humour may be ſaid to be in fault, when by its groſneſs it is apt to tumify in the Branches of the Corroded Veſſels, though otherwiſe it might be repelled by the ſtrength of thoſe divided Veſſels and be admitted into other Veſſels; or the Quality of the Humour may be in fault, when by its ſharp and corroſive Particles it

makes so great an Erosion of the Vessels in the Ulcer, that they are wholely obstructed and hindred from making a discharge of Serum into the Cavity of the Ulcer, and consequently the Vessels being distended by both Blood and Serum, and not able to repel them back, they consequently tumify the Vessels. But here I would have it understood, that by Repulsion I do not mean any retrograde Motion of the Blood, but that the Tonick Stricture of the Vessels is not able to repercuss, and resist the farther Influx. But to proceed, the Part affected may be the Occasion of Fluxion, when by weakness of the Vessels, they are apt to give way to the Influx of Humours, and are easily distended and tumifyed; which they are the more inclined to if in a depending Part.

The Diagnosticks. The Signs of an Ulcer with Fluxion are the Tumour of the Lips and the Parts about it; and the Quantity of Excrement flowing from the Ulcer, as also Inflammation proportionable to the Quality of the Humour.

The Prognosticks. Ulcers with Fluxion are always difficult to cure as the Fluxion is more or less.

Intentions of Cure to prevent Fluxion. In the Cure of these Ulcers, the Intentions vary according to the difference of the Cause. If Heat occasion it, the same Method is to be observed as in a hot Intemperies; If Pain, it is to be relieved by Lenients as in the Preceding Chapter. If a *Plethora* attend the Fluxion, Evacuation by Bleeding is requisite, and a slender Diet, keeping the Body open with Clysters. If the Quality of the Humours be in fault, Purging is convenient and proper Internals to correct and alter the ill Disposition of the Humours. If the Weakness of the Part is the Occasion by giving way to the Humour, it is to be strengthened, and the Influx of Humours resisted by proper Astringents, and such as are also cooling to allay the extraordinary

dinary Heat, that is occaſioned by the Fluxion, as *fol. Plantag. Polygon. ſum. rubi, Equiſet. Cort. Ulmi, flor. Roſ. rubr. bac. Myrt. baluſt. Nuc. gland. querc. Cypreſs. gallar.* which may be boyled in oxycrate or Wine and applyed in ſtupes. Or *Aq. Aluminis* and *Aq. Calcis* may be convenient, eſpecially in ſtrong Bodies. Or, *Unguent. Nutrit. alb. Camphorat. de ſiccativum rubr. Cerot. Galeni. Emp. de Minio* or *de Bolo* may be applyed to the ſame Intention.

To correct the Humours internally.

Whilſt the Influx of Humours is thus prevented, it will be neceſſary to correct the Acrid eroding Humour within, by proper Digeſtives, that the Veſſels tumifyed may be freed of the *fæces* made by Eroſion, and no longer Obſtructed; but have Liberty freely to diſcharge that Serum, which ſupplys the Matter of Excrement; by which means the Tumifyed Veſſels, by this diſcharge, will be relaxed, and the Tumour abated.

Other intentions.

The Ulcer being ſufficiently digeſted, we are to proceed to deterge, which is to be done with ſtronger detergents than are neceſſary in ſimple Ulcers, ſince the corroding Humour is more ſharp and acrid, and conſequently muſt occaſion a groſſer ſlough, and a greater Quantity of *fæces* to obſtruct the Extremities of the Veſſels; yet they ought not to conſiſt of ſharp biting Parts, but rather ſuch as may check the Acrimony of the eroding Humour.

The Ulcer deterged may be incarned with the following, ℞. *Terebinth Venet.* ℥ii *ſevi vaccini* ℥i. *Plumb. uſt.* ℥vi. *tutiæ præp. C C uſt. ana* ℥ii. *M.* to which may be added, *Thus Sarcocoll.* or *Rezina Pini*, where the *Plumbum uſt. Tuti præp.* and *C C. uſt.* are not only drying, as they imbibe ſuperfluous Moiſture, but cool, and likewiſe imbibe the acrimonious parts of the Serum, if any remains uncorrected; whilſt the Balſamick parts of the

Turpentine and Rezins, alſo ſoften and incraſſate the Excrementitious moiſture, and makes it eaſy and ſoft and Balſamick upon the Ulcer, without diſturbing Nature, whilſt ſhe incarns, with any ſharp or biting Particles. The Ulcer incarned is to be Cicatrized by proper Epuloticks.

CHAP. VI.

Of Ulcers with Hyperſarcoſis.

The Definition and Cauſe.

Hyperſarcoſis is an Increaſe of looſe ſpongy fleſh made by a too quick Appoſition of parts in incarning. The Reaſon of which will appear from what I have ſaid in the ſecond Chapter of this ſecond Part of the Nature of Incarning: for when the New fleſh is ſuffered for want of Medicines ſufficiently drying, to riſe too faſt, and the Serum of the Blood is not ſufficiently abſorbed, the new Veſſels are not only too much diſtended, and the appoſition of parts ſo faſt, that they have not time enough to harden, by reaſon of too much Moiſture; but the Serum contained in them, being uncorrect and eroding, looſens their Texture and Firmneſs, ſo that the whole appears looſe and ſpongy.

A

A *Hyperſarcoſis* is ſo evident of it ſelf, that there is no need of any other Diagnoſticks to know it by, but its own Appearance. *The Diagnoſticks.*

In the Cure we are to conſider the Cauſe; and firſt if Luxuriant fleſh happens for want of Medicines ſufficiently drying, to conſume the ſuperfluous Moiſture, that the new fleſh might have time to harden and and grow firm, then ſtronger Medicines are to be made uſe of, as *Spong. uſt. Lapis Tutiæ alumen uſt. Merc. præcip.* Or ℞. *Nuc. gallar. cort. granator. ana* ℥ii *baluſt* ℥i. *alum. uſt.* ℥i. *pulv. ſubtil. M.* which ſprinkled upon the Ulcers, it muſt be covered with dry pledgits, and bound up with a compreſs. Or *aq. Calcis* with a few grains of *ſublimate* may be applyed. But the Vitriol Stone will not only keep down the looſe fleſh, but alſo help to make a firm *Cicatrix*. *The Cure to to be varied according to the Cauſe.*

CHAP. VII.

Of Ulcers with Caries in the Bones.

Of the Cauſes.

AN Ulcer is often complicated with a Caries or Rottenneſs of the Bone, the Caries being occaſioned by the Ulcer; but ſometimes the Caries is precedent to the Ulcer, and the Occaſion of the Ulcer. From whence it appears, that the Cauſe of a Caries is either external or internal. External, when by an Ulcer preceding, the Bone is alſo eroded by the Acrimonious Matter of the Ulcer; Internal when the Eroſion Originally begins in the Bone it ſelf. How parts are Eroded by the acrimonious parts of ſharp corroſive Humours hath been accounted for in the firſt Chapter of Ulcers in General; yet ſince the ſubſtance of a Bone is much different from the Nature of ſoft Parts, we ſhall briefly conſider how the Bones themſelves are corrupted by this ſharp Humour When the eroding Quality of this humour then hath penetrated ſo far as to corrupt the Fleſh, and deſtroy and conſume the Perioſteum, the ſubtle acrimonious Parts gradually inſinuate themſelves betwixt the Parts of the Bone, and mixing with that Balſamick oyly Mucilage, which nouriſhes the Bones, betwixt it's Lamina, they putrify and corrupt it, and make it rancid, ſo that it acquires heterogeneous Parts, and no longer fit to nouriſh them, but perverted by the acrid Parts from the Ulcer, it becomes too ſubtle, ſo that it's parts are crowded into the pores of

How a Caries is produced by an External Cauſe.

of the Lamina of the Bones, and ſeparate and divide their looſer parts, ſo that the more firm and groſs, looſing their Continuity become porous and ſpongy, whereas as long as it retained it's ſweet oyly Mucilaginous Quality it ſupplyed the Bones with a ſoft and inoffenſive Juice. So *Linimentum Arcæi* may be ſafely applyed to a Bone, whereas greaſy Medicines, which have ſtrong and rancid parts ſoon corrupt and putrify them; ſo the Juices in the ſoft Parts, by a moderate Fermentation and Digeſtion are concocted into wholeſome Nouriſhment, but when by too high a degree of digeſtion they become fretting and corroſive, they deſtroy thoſe Parts they ought to ſuſtain; ſo the Sulphureous Parts of Fir Trees, by their Balſamick Parts, ſupple the brittle Parts of the Timber, whilſt in their Natural State, but when by fire, their Parts are put into a violent fermentative Motion, they preſently deſtroy it.

Linimentum Arcæi why ſafely applyed to a Bone.

Thus by the external Influence of corroſive humours the Subſtance of a Bone may be made Carious, but when by groſneſs, or any other Accident, the ſweet oyly Mucilage happens to obſtruct betwixt the Lamina of the Bones, it preſently corrupts and grows rancid, and frets and putrifys the ſubſtance of the Bones.

How a Caries is produced by an Internal Cauſe.

But the Bones often grow foul and carious, by other Accidents than thoſe which Nature her ſelf is ſubject to, as by being expoſed to external Air, by which means the Superficies is not only affected by the ſharp parts of the Air, but the external cold chills and coagulates the Oyly Mucilage betwixt the Lamina of the Bone, and by this means occaſions an Obſtruction, and conſequently putrifaction and eroſion, which produces a Caries.

Other Concurring and accidental Cauſes of a Caries.

A Caries may likewiſe happen, when for want of due care, by a Wound or Bruiſe eroding Humours are collected, and corrupt the Bones that lye under them, or a Caries may alſo be occaſioned, by the unskilful Uſe of external Applications.

The Diagnoſticks. The Signs of a Caries are various. If the Bone be bare, and it appears white and porous, it is a Sign the Caries is deeper than when it is black and hard. If the Bone lye deep and ſo that it cannot be tryed with a Probe, if it be carious, the Matter that flows from it will be fætid and oyly; If a Bone be much corrupted, the Matter will be fætid, and the bone ſink under the Probe. When the Bone is covered with fleſh, if that Fleſh be lax and white, it is a Sign of a Caries, eſpecially if the Matter be fætid and oyly. If Ulcers are of long Continuance, or hard to Cicatrize, and ſubject to frequent Eruptions, a Caries may be ſuſpected.

The Prognoſticks. Ulcers with Caries are difficult to Cure, and more or leſs dangerous, as the great Joynts or heads of the Bones are affected, where Medicines proper to exfoliate, cannot ſafely be applyed.

The Intention of Cure and firſt in reſpect of Diet, &c. In the Cure of Ulcers with a Caries, a Regular Diet is to be obſerved, and ſince the Ulcer cannot heal till the Caries be removed, care muſt be taken to ſeparate the Cariosity as ſoon as poſſible; but for as much as in doing of that the vitious Excrement of the Ulcer will be apt to diſturb the Cure, Care muſt be alſo taken to correct the Qualities of the peccant Matter that offends the Ulcer, and in order to that it will be requiſite to make a ſufficient diſcharge, firſt by Bleeding, and then by proper Purgatives, by which means the Quantity of the peccant Matter being diſcharged, and the Veſſels emptyed, there will be more room for Alteratives to correct the vitious Qualities of the

the humour remaining in the Mass of Blood; and a large Influx of Humours upon the Ulcered Part will be prevented, and the Caries managed with less Interruption.

What is to be done in Respect of the Caries Externally,

The Body being thus prepared for the Work, it will be requisite to lay the Carious Bone bare, that proper Medicines may be applyed to it, to promote Exfoliation. To which end, if the Orifice be small, it must be enlarged, and the rotten flesh, either scraped away, or consumed by Escharoticks, according to the extent of the Caries; but if large Vessels, Nerves or Tendons lye in the way, as in great Joynts and the hands and feet, the Ulcer must be dilated with prepared spunge or Gentian Root, till the Caries be laid bare; but if the Vessels or Tendons lye so, that the Caries cannot be laid bare without dividing those Parts, the Inconveniency on both sides is to be considered and the greater Evil to be avoided, and the Vessels divided, or the Caries neglected accordingly.

The Bone being laid bare, the extent and depth of the Caries is to be considered, and whether it be hard or soft; as likewise the Nature of the Bone affected with it, and Medicines or Manual Operations, to be made use of accordingly; As by Rasping or Actual Cautery.

What is to be done in a superficial Caries or when deep.

If the Caries be superficial, moderate Medicines will dispose the Bone to thrust out a Callus and separate the Caries, as *rad. ireos peucedanum, rad. Aristolochia, myrrh. aloes*, &c. But if these are not sufficient *Euphorb. unguent. Ægyptiac. ol. garyophill. Spir. vitriol. Sulph.* &c. may be apply'd, but care must be taken to defend the sound parts from their *Acrimony*. These Exfoliating Medicines may be apply'd to the Bone with dossils of lint over them, to distend the Lips of the Ulcer, and defend the Bone from the

the Moisture that might fall upon it from the Ulcer, which would hinder exfoliation, and corrupt the Bone; it being necessary in order to exfoliation to keep the bone dry. Where the bone lyes, so, that these Medicines cannot be well apply'd in the form of powder, they may be used in Spirit of Wine or mixed with *Unguent. Ægyptiac.* or in the form of an Injection, as ℞. *Symphit. Maj. Gent. Aristolochiæ rotund. et long. rad. ireos ana* ℥i. *Fl. ros. rubr. sumach. balust. ana* ℥ss. *coq. in vin. alb. ad* ℔ii *Colat. add. Spr. Vin.* ℥ii. *mel. Resat. Ægyptiac. q. s.* But very often if a *Caries* be but superficial, Nature her self will exfoliate without the help of Medicines, provided the Bone be kept dry.

The Spongy Bones in the Hands and Feet are to be kept bare with Dossils, as far as Carious; and if the whole be affected, it will in time separate, but will more speedily, if hastened and dryed by an Actual Cautery. If the bone be carious only in the Middle, the carious part may be broke away with a pair of nippers, and the part dressed with the milder Exfoliators, and in a little time the *Caries* will separate, and the ends of the Bones will be united by a Callus.

Rugins or actual Cautery when requisite.

If the Caries be in great Bones, and deep, and the Influx of Matter considerable, the best way will be to make use of Rugins or Actual Cautery. If it may easily become at to scrape, scraping is to be continued till the bone appears firm and of a ruddy Colour, but care must be taken lest you proceed too deep, and penetrate to the Marrow it self. When the Caries is scraped away the mild exfoliators above mention'd are proper, or ℞. *Terebinth. clar.* ℥iv. *Gum. Elem.* ℥ii. *Rez. pini. Mastich. ana* ℥vi. *Thuris Sarco coll. ana* ℥ii. *M. super ignem.* apply it warm upon Lint and in a few days a Callus will begin to

A Caution in Scraping the Bone.

to ſhew it ſelf in ſmall grains ; and the ſmall inequalities of the bone will ſeparate and riſe upon the Callus.

Actual Cautery when to be apply'd.

But if the Caries lye ſo deep that it cannot be ſcraped, it may be conſumed with Actual Cautery, in order to which, if the Ulcer be narrow, a Canula armed with emplaſter, or oyled Cloath, to defend the fleſh, is to be placed upon the Carious bone, and the Actual Cautery to be apply'd through it, ſo often as is neceſſary to conſume the Caries ; the Canula being taken out to cool and the bone being cleanſed whenever the actual Cautery is renewed ; upon the application of which, as the bone is more or leſs rotten, the humour will ſpurt out, the firſt time, but will be afterwards Dry, and the Bone may be perceived firm.

How the Bone is to be dreſs'd after the actual Cautery.

This being done dreſs the bone with the whites of *Eggs* beaten up with the Mucilage of *Quinces* extracted in *aq. Germin. Querc.* and the Ulcer and Scorched Lips with *Unguent. Refrig. Galeni* applying a Cerot of the ſame over all; which dreſſings are to be continued, till the heat of the Parts is abated ; and then the bone is to be dreſs'd with mild exfoliating Medicines, and the Ulcer kept open, till the Exfoliation is caſt off ; then leave out the Doſſils and the Ulcer will eaſily incarn and *Cicatrize.* If the Lips of the Ulcer be bliſtered, in applying the Cautery, they may be dreſs'd with *Unguent. alb.* or *Tutiæ.*

But there are ſome Bones which will not admit of actual Cautery, as the Bones of the Head, and Back, the latter of which will neither bare the Rugin nor ſharp Medicines ; nor is the actual Cautery to be applyed to the *Sternum* or Ribs, nor the *Os Calcis* without a great deal of Caution.

Thus

Thus much being ſaid of the method of curing a Caries; ſince in the beginning, we have ſhewed how a Caries may be occaſioned, it will not be amiſs if we endeavour to ſhew how a Caries is caſt off, and how external Applications promote exfoliation and the Generation of a Callus.

How Exfoliation is performed.

Since then, a Caries is a Solution of Continuity made in a hard part, as an Ulcer is in a ſoft one, by Eroſion; and that the eroding particles conſume the ſolid parts, and corrupt the Natural Juices betwixt the Lamina of the Bones, we conſider the eroding putrid humour to be comparatively the ſame as the corroding Humour in an Ulcer, which as long as uncorrected, ſtill proceeds to corrode the parts under it; and as the corroſive humour acts in corroding the Bones in a ſimilar manner, ſo the Carious Bone may be conſidered as the fæces of the corroded Veſſels; and though it adheres to the ſound Bone, yet is not the adheſion very firm, ſince the continuity is in a great meaſure deſtroyed; ſo that in a Superficial Caries the corrupting and Corroding Qualities of the Humour being corrected; Nature is eaſily aſſiſted to ſeparate the Slough and make an Exfoliation of the Caries. But when the Caries hath penetrated deep, the adheſion is ſtronger, being faſtened in ſo many places, that Nature without the help of Cautery is not able to raiſe ſo great a Burthen, but when part of that difficulty is removed, ſhe eaſily ſeparates the reſt.

How Medicines promote Exfoliation.

But to make it conceivable how Nature ſeparates this Caries, and how Medicines contribute to aſſiſt her, we are to conſider, beſides the Nature of the Caries, the Qualities of Medicines, which appear to be either Reſinous and bitter Aromaticks, as *rad. [illegible] Ariſtolochiæ*, *Aloes*, &c. or oleoſe

oleoſe Aſtringents, as *ol. garyoph.* and *Ægyptiac.* Now as the Humour is acrid and corroding we ſuppoſe, that the Rezinous parts of theſe Medicines mixing with the ſharp corroſive humour, dull the Edges of them, and by entangling them amongſt their ſmoother parts not only inſpiſſate and thicken this Humour, but prevent it's proceeding to corrode the Bone, ſo that it's form being changed by this mixture, it looſes it's Qualities, and is no longer eroding. And whilſt the Rezinous Qualities thus exert themſelves, the Bitters help to prevent putrefaction, by preſerving the mixture of the altered Humour; and the Aromatick Effluvia penetrating further, excite and cheriſh the Natural Heat in the ſound parts, which being thus aſſiſted and no longer affected with a Corroſive Humour, the ſound Veſſels iſſue out their Natural Juices; which ſince they cannot be received by the eroded Bone, whoſe Texture is deſtroyed, and pores full of this new mixed humour, they conſequently interpoſe betwixt the ſound and corroded parts, and ſo make a ſeparation of the *Caries* and an Exfoliation.

From hence it appears how Rezinous and bitter Aromaticks aſſiſt in looſening a Caries, and making an Exfoliation: In the next place we ſhall conſider the Effects of oleoſe and Aſtringents; which will eaſily be underſtood, if we conſider, that oyly Bodies which are not ſubject to grow Rancid, as *ol. Garyophillor*, interpoſing betwixt acrid and fretting Particles will abate and alter their corroſive Effects; and ſince by altering and checking their eroding Parts, they make the Humour inoffenſive to Nature, the Aromatick Effects of this Oyl, will likewiſe excite and renew the Natural Heat, and put Nature in the way to exert her ſelf: And though *Ægyptiacum* hath no Aromatick Parts, yet by it's Aſtringency it both

corrects

corrects the eroding Quality of the humour and prevents Putrefaction; and as Aſtringents bind up the Pores, they ſeem to preſerve the Natural Heat of the Parts, by repelling and confining it from flying away.

How a Callus is formed.

Thus much of the Separation of a Caries, and the promoting of an Exfoliation. It remains, that we ſhould ſhew, how a Callus is formed. A Callus then in a Bone ſeems to be a Natural Supply of Subſtance to fill up what was conſumed by eroſion, as fleſh is made in an Ulcer to make up the loſs of ſubſtance there; which we ſuppoſe to be generated much after the ſame manner, only the appoſition of parts in a Bone is ſlower, and thruſt out by degrees, the Number and Proportion of Veſſels in reſpect of the Part being much more in a fleſhy Part than in a Bone. I ſhall not need to transfer and repeat what I have ſaid in the ſecond Chapter of this ſecond Part, of the nature of Incarning, but as I have there obſerved that upon the Uſe of Detergents, the Blood ſeems to ſtand in drops in the Extremities of the Veſſels, ſo in the beginning of a Callus it firſt diſcovers it ſelf in red ſpecks upon the Part it riſes from, which confirms me in my opinion the more in what I have ſaid of the Nature of Incarning, *viz.* That the New fleſh is formed by the Appoſition of the parts of Blood. And that a Callus is ſo too, is evident from the Colour of it's firſt Origin and Beginning, which, as it is red, muſt needs be ſupplyed by Veſſels which conveigh a Subſtance of that Colour, and ſince it comes from the Sanguiferous Veſſels, it may well be preſumed, that a Callus is formed by an Appoſition of the parts of the Blood.

Since

Since then a Callus is generated by an Appoſition of the Parts of Blood, iſſuing out of the Capillary Veſſels in the Subſtance of the Bones, all one as the fleſh that fills up a Wound or Ulcer, riſes from the Veſſels in the Subſtance of the Fleſh; we ſhall briefly compare their Differences and endeavour to account for the Reaſon of thoſe Differences.

Difference betwixt the Generation of a Callus and of new Fleſh.

And firſt the Fleſh in an Ulcer ſeems to grow faſter and looſer than that which hardens into a Callus, firſt, becauſe the Blood Veſſels are not only more plentiful, and the Moiſture greater; but alſo the Appoſition of Parts is quicker proportionably; and conſequently the Veſſels have not ſo much time to harden.

Secondly, the Fleſh which fills up an Ulcer continues ſoft, whereas the other grows firm and at the laſt hard. The former being leſs confined, as ſoon as it hath filled up the Cavity of the Ulcer, terminates in a Cuticle or thin Callus; whereas in the Callus, formed in Bones, the Veſſels are formed by degrees and gradually compreſs each other, till at laſt, they are uncapable of receiving any more blood, or of extending themſelves any further, and then the Humours in them, not finding ſo free a regreſs as in the Subſtance of the Fleſh, reductory Veſſels being not ſo ready to receive it, it condenſes and coagulates and hardens into a Callus along with the Compreſſed Veſſels, which are more cloſely confined and have not ſo much liberty to extend themſelves. When a Callus riſes from the Extremities of two bones, they are gradually prolonged, till at laſt meeting, the Blood thruſting out on both ſides mutually adheres, and condenſing and hardening together, forms a perfect Continuity. If the Veſſels thus hardening, or the Blood condenſing forms any Vacuity betwixt their Parts, it is inſtantly ſupplyed with

a ſufficient Quantity of Matter to poſſeſs the ſpace, which condenſes and indurates with the Reſt. So a Scirrhus is indurated by a freſh ſupply and appoſition of Parts.

CHAP. VIII.

Of Ulcers with Callous Lips.

The Cauſe of Callus Lips.

WHen Ulcers are long in Cure, they frequently contract Callous Lips, which are hard and livid.

The Cauſe of this Calloſity is a hot humour mixed with Phlegm, which when it happens to ſtagnate about the Edges of the Ulcer, the hot Parts evaporate and diſintangle themſelves from the Phlegm, which for want of a Liquid to dilute it condenſes, and hardens and forms a Calloſity, ſometimes it is condenſed by the influence of the Air, or by cooling and drying Medicines.

The Diagnoſticks. They are evident by their own Appearance, and make the Ulcers they attend difficult of Cure, which cannot heal without a Removal of the Calloſity.

The Cure. In the Cure of theſe Ulcers the Callous Lips are to be remedied as ſoon as poſſible, or kept down by compreſs and bandage, that they may cicatrize with the Ulcer. In order to the Removal of them Emollients and Diſcutients are convenient; as, *Rad. et fol. Althææ lilior. malva. ſem. lini et fænugreci, fl. Chæmelilot. ſambuc.* with

with which the parts are to be fomented, and embrocated with *ol. amygd. dulc. Unguent. de Althæa, ol. lil. Lumbricorum.* The Lips of the Ulcer being thus fomented, and Embrocated Apply *Ceratum Refrigerans Galeni, Emp. de Mucilag. de Ranis cum Mercur. Diachyl. ireat.* or a plate of Lead rub'd with Mercury; or *Ceruſs.* and *calx lot.* made up into a Paſte with *axung. porcin.* with Compreſs and Bandage; but if Bandage cannot be conveniently made, the calloſity muſt be removed either by Cauſtick or Knife, and healed even with the Ulcer. As for the Reaſon of the Method here preſcribed by Lenients and Emollients, and how they perform their Effects, will appear from what hath been already ſaid of them in the firſt Part of Tumours in General, and of *Scirrhus.*

CHAP. IX.

Of Putrid Ulcers.

ULcers made ſordid by the fluxion of ſharp acrid Humours, as the Sordes increaſes degenerate into putrid Ulcers, the matter growing fætid and rotting the Fleſh. *The Original of Putrid Ulcers.*

The Cauſe of theſe Ulcers is an ill depraved Craſis of the Serum, which depoſes an acrid ſharp Humour in the Ulcer, complicated with Phlegm. The hot Humour occaſions an Intemperies in the part, and the Phlegm renders the *The Cauſe.*

Ulcer ſordid, where the ſharp acrid particles lodging in the ſordes, corrupts it and ſo the matter acquires a malignant Quality. Sordid Ulcers are ſometimes occaſioned by the ill uſe of Digeſtives thickening the Excrement of the Ulcer too much, or by the uſe of too ſtrong detergents; but when theſe occaſion putrid Ulcers there is a precedent ill Diſpoſition of Serum in the Blood, which diſpoſes theſe Ulcers to become Putrid. But ſometimes they ſucceed malignant Fevers, the malignant humour growing groſs and thick, its thinner parts, which diluded it, being conſumed and ſpent by the heat of the Fever, and apt to obſtruct in the external parts of the Body; where this acrimonious Phlegm preſently Ulcerates, and produces a Corroſive putrid Ulcer.

The Diagnoſticks. The ſigns are a viſcous tough Excrement with great heat and pain; as the Corroſive Quality and the Sordes increaſe, it changes it's Colour, and the Ulcer corrupts, and the matter ſtinks.

The Prognoſticks. The Sordes hindering the diſcharge of Corroding Humour, it corrupts the part the more violently, and renders the Ulcer more putrid, and if the Putrefaction be not checked, it terminates in a Gangrene and Sphacelus.

The Cure Internally. In the Cure of theſe Ulcers, the ill diſpoſition of the Humours is to be corrected, firſt by a Convenient Diet; and evacuation to be made, not only by bleeding, but the Viſcous Humours are to be diſcharged by proper purging Medicines, as alſo the Diſpoſition of the Blood is to be corrected by proper alteratives, and a decoction of *Sarſaparil. Lign. Guaj. Suſſaphras*, &c. for common Drink.

External

External Applications are to be varied, according to the Quality and Circumstances of the Ulcer. If strong detergents occasioned the Ulcer to grow sordid, *Unguent. Basil. cum Mercur. Præcipit.* or *Diapompholyg. mag.* with *Cerot. Refrig. Galen.* and a compress wrung out of *Oxycrate* may be proper. If Lenients occasion'd the *Sordes*, fill the Ulcer with *Præcipitate*, with a pledgit of some moderate detergent over it, and the third day, when you are to dress it, the sordes will separate in a slough, and then after the use of moderate digestives you may incarn. In Common putrid Ulcers, *Merc. præcip. Rub.* ℥ii. *Mundif. Paracel.* ℥i. with *alumen. ust.* and *Unguent. Apost.* is a proper detergent. *Externally.*

If the Ulcer be putrid, a Decoct of *Absinth. Scord.* &c. in a *Lixivium* will be proper to wash the part, which may resist putrefaction, or *Ægyptiac.* dissolved in Spirit of Wine, the *Ægypt* powerfully depressing the acrimonious corroding parts, whilst the Spirit of Wine preserve the the Natural heat. And when this is done, the parts externally are to be defended from the Influx of Humours.

If the Ulcer be so corrosive as to undermine the Lips, and render the Flesh soft and lax it is to be treated as a *Phagedæna.* If it tend to Mortification the same methods are proper as in a *Gangrana* and *Sphacelus.*

CHAP. X.

Of Phagedæna, and *Noma*.

Definition of a Phagedæna.

A Phagedæna is a Corroſive Ulcer with tumify'd Lips conſuming the adjacent Fleſh.

of a Noma.

Noma is a deep Corroſive Ulcer, which ſpreads and conſumes the Fleſh without Tumour, attended with Rottenneſs and Putrefaction.

Differences.

Theſe Tumours differ from one another, as the one hath Tumour without Putrefaction, and the other Putrefaction without Tumour. A Phagedæna differs from a Herpes, that beginning in the Skin with little moiſture, and this affecting the Fleſh, and abounding with Matter.

Of the Cauſe.

Theſe Tumours are occaſioned by a depraved Corroſive Craſis of the Humours, which by long continuance become Habitual: How Corroſive humours are generated in the Body ſufficiently appears from what hath been ſaid already in the Chapter of Cancers, and elſewhere, ſo that there is no need to repeat it here, all that I ſhall add is, that as the Humour is more Corroſive and virulent, it produces an Herpes Phagedæna, Noma or Cancer. Only in a Phagedæna, the Corroſive humour ſeems to be complicated with Phlegm, which clogging the Veſſels in the Ulcer, ſo that they cannot diſcharge themſelves freely, they ſwell and tumify the Lips of the Ulcer, whereas in a Noma the Humour is ſo very corroſive, that it preſently conſumes the Parts

it

it affects, ſpreading faſter than a Phagedæna, and is full of a thin gleet, the ſerum of the Blood eaſily iſſuing out of the Extremities of the Veſſels and thus preventing Tumours.

The Signs of theſe Tumours are apparent from their Deſcription. As to the Prognoſticks they are more or leſs malignant and dangerous according to the degrees of Virulency of the Humours, and as it is more or leſs Habitual. They frequently terminate in a *Sphacelus* or a *Cancer*. *The Diagnoſtick and Prognoſtick*

In the Cure, A Regular diet, and ſuch as may breed good humours is convenient. And to correct and diſcharge this virulent Humour purging is proper, and ſuch Medicines as may correct the malignant Craſis of the Blood and Serum; in which caſes Mercurials are convenient, and medicinal Drinks made of *Sarſaparil. Lign Guajac. rad. Chin. Saſſaphras, Santalum alb. citrin. raſ. C C. Ebor.* &c. External Applications are to be varied according to the different Qualities of the Corroſive humour. If the intemperies be hot, cooling and aſtringents are proper to allay the heat, and imbibe and abſorbe the Corroſive Humours which fret the part. As *Unguent. Tutiæ. de Plumbo, de calce, et de Lithargyro.* If theſe are too weak, the Lips ought to be ſcaryfy'd, that the humour may have vent, and applications have a better Effect upon the Parts; then waſhing the Ulcer with *aq. Calcis, aq aluminoſa*, or *decoct. Plantag. Equiſet. rubi. fl. roſ. rubr. baluſt. N. Cypreſs. gallar.* &c. in *Chalybeat* Waters, ſprinkling the following powders in the Ulcer, *viz. Pulv. tutiæ. C. C. uſt. pulv. oſtreor. combuſt. cort. granator.* or ℞. *Unguent. diapompholyg.* ℥ii. *bol. Armen. ſang. dracon. baluſt. ana* ℥ſs *ol roſ. q. ſ. f. Unguent.* with a compreſs wrung out of ſome Aſtringent decoction, when theſe Ulcers are dreſſed thus, they are not to be opened over

once in three or four days, the Natural heat of the part being destroyed by exposing them often to the Air.

If the Ulcer Putrify and corrupt, Detergents which also correct the acrimony of the eroding humour, and prevent further Putrefaction are proper, as *Unguent. Ægyptiac. præcipitat.* or the putrify'd Flesh is to be consumed with Escharoticks or Actual Cautery, which also strengthens the Tone of the Part, by recovering the Natural Heat

CHAP XI.

Of Ulcers with Varices.

Of the Cause IF a part affected with a Varix, happen to be ulcerated, it must be occasioned either by the Acrimony of the Humours, or some Fall or Bruise, and becomes inflamed, Painful and Tumify'd.

Of the Cure. As to the Cure of a Varix it hath been delivered in the first part of Tumours. And as for the Ulcer digestives or detergents are to be used as there is occasion, the Excrement being sanious or sordid. If the Ulcerations be Superficial they may be dressed with *Unguentum Tutiæ*, applying a mixture of *Nutritum* and *Populeon* with Compress and Bandage. If digestives are necessary, *Basilicon* with *præcipitate* may be made use of, which will also deterge; fomentations are also proper

proper, made of Astringents, to restrain the Influx of Humours and correct the sharpness of them. The Ulcer deterged, incarn with the following. ℞. *Thur. aloes ana* ℥i. *Assa fatid* ℥i. *ſs. mel. despumat.* ℥vi. *M. f. Unguentum.* The Ulcer incarned, cicatrize with proper Epuloticks. If the Ulcer be in a part where a Laced Stocking sleeve, &c. may be made use of, it is much better than Rowling, since it makes a Smooth and Even pressure, and not only resists the influx of Humours in the time of the Ulcer, but supports the weak part and prevents a fresh relapse. If in these Ulcers, the Body be Plethorick and full of Humours Bleeding and Purging will be necessary in order to the Cure.

CHAP. XII.

Of Sinuous Ulcers.

Description and cure.

AN Ulcer is called Sinuous from its Hollowness, and owes it's Origin either from the long Retention of Matter, which grows corrosive, and not having vent, at least sufficient discharge, the matter extends its Cavity betwixt the Interstices of the Muscles; or the Situation of it may incline it to be Sinuous, when it happens in such a part, that the matter presses upon the Interstices of the Muscles, and makes it's way betwixt the parts depending, for want of good Compress; or an Ulcer may be made Sinuous,

when an Abſceſs deep amongſt the Muſcles, in any of the Viſcera thruſts it's Matter externally amongſt the Muſcles of the back or Abdomen, *&c.*

The differences. Theſe Ulcers differ as they are long, deep or Superficial, or as they have only one or ſeveral ſinus's; they differ from a Fiſtula, that being callous in its Cavity, and a Sinuous Ulcer only about the Edges, and not always Callous there.

The Diagnoſticks. Sinuous Ulcers may be known by the Nature of the diſcharge, the uſe of a Probe or Wax Candle; and the largneſs of it may be Judged of by the Quantity of the diſcharged Matter.

The Prognoſticks. Sinuous Ulcers of long Continuance are difficult of cure, the part being weakned by the long influx of Superfluous Humours. If the Sinus run under a Joynt Nerve or Tendon, ſo that it cannot be ſafely laid open, the Cure is the more difficult. If the matter be transfered from an Internal part, the part within muſt be cured before the Ulcer will heal. If the ſinus and it's Diſcharge be ſmall and may ſafely and eaſily be laid open, the cure will be the eaſier. If the figure of an Ulcer be orbicular, it retards the cure and ought to be altered if poſſible.

The Intention of Cure. In the cure there are four Intentions.

The Firſt. The firſt Reſpects a due Regimen in Diet. and the reſt of the Non-Naturals, conſiſting of ſuch things as yield no crude Superfluous Moiſture.

The Second. The ſecond Repects the Diſpoſition and Craſis of the Humours, which are to be partly diſcharged by bleeding and purging as Occaſion ſhall require. The humours remaining are to be corrected with Medicinal Diet, drinks of Sarſa, *&c.* by which the Superfluous Moiſture is dryed up and diſcharged by perſpiration; the Blood is to be corrected alſo by alteratives which may cleanſe and purify the indiſpoſed Humours.

The

The Third Intention is to prevent the Influx of Humours into the part, by Revulsion, Repulsion, *&c.* *The Third.*

The Fourth Intention is to cure the Ulcer and remove the Accidents that may attend it, as Pain, Inflammation, *&c.* The first thing to be taken care of is, that the matter may have a free discharge; therefore if the Orifice be in the declining part of the Sinus, it must be enlarged to give sufficient vent, but if the Sinus runs below the Orifice, another is to be made by Knife or Caustick in the most declining Part; and the Sinus above will soon be disposed to heal. When the Sinus runs under Vessels, where a New Orifice cannot be made for it's Discharge, the Position of the Part is to be altered, so as to dispose *it* to run out of the first Orifice; and the matter is to be forced out of the Sinus by Compress and Bandage towards the Orifice, to promote it's discharge. *The Fourth Intention.*

The Ulcer being thus disposed to discharge the matter that flows from it, as it is more or less foul, so Detergents are to be made use of accordingly strong or weak, as *Unguent. Apostolor. Mundificativ. Paracels.* ex *Apio.* without or with an Addition of *præcipit. rubr.* If the Sinuosity requires injections, the following may be made use of ℞. *Summit. Cent. min. agrimony, Equiset. pimpinel. ana M. Rad. Aristolochia rotund. irid. ana* ℥ii. *myrrh Sarcocol ana* ℥iii. *coq.* in *aq. font.* ℔ii. *Collat. add. Spin. Vini.* ℥iv. *mel. Rosar. q. s.* Or *ul. Terebinth.* and *Tinct. Myrrh* injected will restrain by their Astringency the influx of Humours, and dispose the Ulcer the better to aglutinate. If the matter flows from an Abscess within the Body, Injections are not convenient, except there be a way ready for their discharge; which may be made by a *Canula*; or a Pea hung at a thread, by which the Orifice will be kept open till the

the Ulcer within heals, and then if you leave out the Pea, the External Ulcer will heal also.

Whilst the Cure is thus promoted by the use of Internal Medicines the part is frequently to be fomented with a Decoction of *Summit. Absinth. Marjoran. Hyperici, beton. fl. Cham. ros. rubr. balust. bac. Myrt.* &c. in Wine or Water, adding Spirit of Wine or Brandy to the decoction, which will preserve the Natural Heat of the part, and strengthen it's Tone, and help to dispose the matter in the Ulcer the better to digestion, and incline the parts separated by the Sinuosity to unite and recover their Continuity.

CHAP. XIII.

Of Sinuous Ulcers and *Fistula* in *Ano*.

The Origin of Fistulas

Sinuous Ulcers in Ano, by their long Continuance become Callous, and so degenerate into Fistulæ. They proceed either from Abscesses made by the Piles or Phymous Tumours about the Muscles of the Anus.

Those which proceed from Internal Piles, gradually extend their Sinus betwixt the Coats of the *Intestinum Rectum* down to the Verge of the Anus, where they discharge a thin gleet at a small pin-hole, at the first, without any pain, but in time is attended with Itching, and sometimes Excoriation and *Rhagades*. These sinus's at the last-

last spread outwards, and grow Callous, the External Orifice being Small and Contracted as well as hard, scarce admitting the entrance of a small Probe.

These Fistula's which are occasioned by Phymous abscesses, gradually insinuate the matter betwixt the Interstices of the Muscles *Glutæi*, or towards the Neck of the Bladder, and sometimes into the *Pelvis*: these are very painful, and discharge a purulent matter according to the largeness of their Cavity; and at the last grow Callous and Fistulous.

These Fistula's are Discovered by the use of a probe which if passed into the first kind of Sinus's, you may perceive it all along to the Orifice which was first made by the Piles, if you put your finger up the Anus. The other kind discharge their Matter by Stool at the first, and at length make their own way out externally, more or less distant from the Anus, according to their first Origin in the Intestins. *The Diagnosticks.*

Sinuous Ulcers arising from the Piles are healthful, and ought not to be cured if they are not very troublesome and painful. But those that follow Phymous Abscesses are dangerous and difficult of Cure; especially if the Orifice lye far from the Anus, so that they cannot be safely laid open. *The Prognosticks.*

Sinuous Ulcers in time grow Callous. If the Callosity runs superficially upwards by the *Rectum* but a little way, they are easily cured; but when they are extended so far that they cannot be laid open the whole Length, the matter flowing from the Upper part, will hinder the Lower part from healing. If a *Fistula* penetrate beyond the Muscles of the Anus, and be cured by opening it, the retentive faculty will be impaired; and if the *Sphincter* be divided, the Retention is wholly destroyed

ſtroyed. In Bodies which are Cacochymical, that ill diſpoſition is to be remedied and cured, before the *Fiſtula* can be either ſafely, or cured at all.

The Palliative Cure. The Cure of theſe Fiſtula's is either Palliative or Perfect. The Palliative cure is of uſe, when the Fiſtula being neither painful nor troubleſome, ought to be kept open for the diſcharge of peccant Humours, the Sinus being ſmall and terminating in the Verge of the Anus. If the Orifice incline to tumify and obſtruct the diſcharge of the matter, by the Contraction of the Callus, that Callus is to be removed by a Cauſtick; and when the ſlough is ſeparated the Orifice may be kept open as an Iſſue. To prevent Excoriation by the humour that flows out, a pledgit of tow may be kept cloſe to the Orifice to imbibe the matter, or the Pledgit may be ſpread with ſome *Lenient Unguent.*

Of the Perfect Cure. In order to the cure if the Sinus be ſome diſtance from the Anus; it is firſt to be laid open to the Anus, and cured again, before that in Ano is to be divided. But firſt the Body is to be cleanſed of all Chacomical Humours which might flow to the part and diſturb the Cure; which is to be done by Bleeding, Purging, and Internal Alteratives. A Regular Diet is alſo to be obſerved, not only to prevent the flux of Humours to the Part, but alſo to keep the Excrements of a due conſiſtence, that the Cure may not be diſturbed by them in frequent going to ſtool; therefore if there be a Looſeneſs, that muſt firſt be cured, before the Sinus is divided.

A Fistula in Ano is to be laid open either by Ligature or Incision. The Ligature is made of twisted brown thread or stiching silk, which is not to be too thick lest it bruises the Flesh in cutting it, The Needle with which it is passed, ought to be answerable to the Circumstances of the Sinus. When the Intestine is penetrated by the Sinus, the Ligature may be passed with a Leaden Needle, or a Silver-wire Probe, or a searching Candle. If the Sinus do not penetrate, the Needle must be sharp at the end to penetrate the Intestin; and pliant, that it may answer the turning of the Sinus. If the Sinus lye high and be crooked, the Needle may be passed through a convenient Canula which will Strengthen and Support it, and prevent it breaking as it is thrust through the Intestin. *A Fistula to be laid open by Ligature or Incision.*

In order to the Performing of this Operation, the Fistula is to be searched with a Probe, and your finger to be put up the *Intestinum Rectum*, to discover the distance of the Sinus. If the Sinus be streight and the Callous considerable, it is first to be dilated with *Gentian* Roots, and the Callus to be removed with Cathereticks; but if that side next the intestines only be Callous, the Callosity is to be divided after the Fistula is laid open. In order to lay the Fistula open the Needle is to be passed up by one hand, whilst the point of it is to be directed by the other, which is to be above the point of the Needle whilst it penetrates. If the Needle be passed through a Canula, the Canula is first to be placed with the end of it against the finger which is in the *Rectum*, then another holding the Canula pass the Needle through the Gut, and as it is brought out by your fingers the Canula is to be pulled off, the Needle with the Ligature being brought out of the Anus. Then cut away the Needle and tye the Ligature, *The method of performing it by Ligature.*

first

first with a single and then with a bow knot, placing a peice of Cloth or a Plaister betwixt the Skin and the Ligature, to hinder it from cutting on the outside, then place the Ligature on one side; that it may be out of the way of the Excrements going to stool. If the parts be heated in the Operation, they may be cooled with *ol. rosar. cum Vin austero*, or an injection of *Decoct. hord. cum sem. Cydon.* applying Externally *Unguent. rosat.* or *popul.* Every fourth day the Ligature is to be loosed and tyed torter till it is cut through. If the Lips separated in the Anus lye high, they are to be taken down with a Caustick, that the Cicatrix may be smooth.

The method of laying it open by Incision.

To lay the Sinus open by incision, a pair of probe scissors are made use of; but care is to be taken lest the foulds of the Rugous Coat of the *Rectum* be cut. If the Sinus be short this is the best way, being most speedy; but if the Sinus be deep the inner Coat will be more in danger of being cut; besides the parts divided by incision will be apt to heal up before the Sinus is filled up, whereas, when they are divided by Ligature, the parts contused by such a Division are not so apt to cement, but gradually heal above, as the parts are divided below.

If there be any Excrescences about the Anus, they are to be taken away before the Sinus is divided, lest the pain occasioned by the division, should cause them to swell and tumify, and disturb the Cure.

Whether the Sinus be divided by Ligature or Incision, when it is laid open, it is to be digested, incarned and cicatrized, as in other Ulcers.

CHAP.

CHAP. XIV.

Of an Ægylops.

ÆGylops is an Ulcerated Tubercle in the internal Canthus of the Eye. When it is without Ulceration it is called Anchylops. When it is Ulcerated it is apt to grow Sinuous, and is called Fistula Lachrymalis. It is sometimes Callous and fouls the Bone of the Nose. *Description.*

The Cause of this Tumour is the same with others which affects the Glands. It is made either by Fluxion or Congestion; And frequently Succeeding the small Pox. *The Cause.*

When it is made by Congestion, the Tumour is round without discolouring the skin. If they proceed from Fluxion, they are attended with Pain, Inflamation and Redness. Sometimes it begins with a weeping in that corner, and discovers it self with a redness in the Eye; and if pressed upon, it issues out a mixed matter; part of which is not unlike the white of an Egg. It sometimes corrupts the bone, and is discharged through the Nostrils, having a fætid Smell. *The Diagnosticks.*

A Fistula Lachrymalis is very difficult to cure the parts being loose and spongy, and the Eye very Sensible; which makes it very subject to Pain and Fluxion, especially when sharp Medicines are applyed. Those which are of small standing and open, are easy of Cure. If the Gland be Ulcerated and the Bone Carious, the cure is more difficult. *The Prognosticks.*

The

The Indications of Cure. The Indications of cure vary according to the Circumſtances of the diſeaſe. In the beginning Bleeding and Purging are neceſſary, and ſuch Internal Medicines as may correct the ill diſpoſition of the Blood, or ſuch Humours as may affect the part, obſerving a due Regimen in Diet.

What Externals are requiſite. Externally Repellents are neceſſary, which may prevent Fluxion. As *aq. portulac plantag. Lactuc. Equiſet. ſolan. Sperm. Ranar. cum bol. Armen. Lapis Calaminar.* and *Sachar. Saturni*, &c. making derivation alſo by *Empl. de Maſtich. Tacamahac.* &c. apply'd to the Temples. If the Tumour increaſe with pain and tenſion, it may be fomented with Diſcutients. As *ſumm. Abſinth. fl. Sambuc. Rutæ*, or *Cataplaſms* may be made by an Addition of *farin. Orobi Lentium*, &c If it tend to ſuppuration, digeſtion may be promoted with Emollient digeſtives. As *Rad. lil. muc. ſem. Althæa, fænugrec. lini, farin. tritic. axung. porcin.* &c. The matter digeſted, they are to be opened either by Inciſion or Cauſtick. If they be opened by Cauſtick, care muſt be taken to avoid hurting the Edge of the Eye-Lyd, it being impoſſible to remedy it, and the Eye for the future being ſubject to water. When the Tumour is opened, digeſt with *ol. roſar. cum alb. ov.* apply'd on a Pledgit, with *Cerat. Galleni* over it, and a Compreſs wrung out of ſome convenient Anodyne, *Aſtringent* water, as *aq. roſ. ſperm. Ranar.* &c. When digeſted, deterge with *mel. Roſar.* or *Syr. de roſ. Siccis* or ℞. *mel. commun.* ℥ii. *virid. aris* ℥i. *Spir. Vin.* ℥iv. *coq. ad tertiæ part. conſumpt.* or ℞. *myrobalan. citr. ana* ℥i. *Thur. myrrh ana* ℈ii. *æris.* ℈i. *Camph. gr.* ii. *infund. in aq. Roſ. et. Vin. alb. ana* ℥iv. *coq. ad tertiæ part. conſumpt.* which will diſpoſe it to incarn and cicatrize with *Unguent. Tutiæ* or *aq. Calcis*, with good Compreſs.

A Caution in applying Cauſticks.

If

If the Ulcer be Fistulous and the Orifice small, it is to be dilated with *Gentian* Roots, and the Callosity is to be destroyed with detergents, or ℞. *fol. Rutæ, chelidon min. agrimon. ana M.* ſs. *infund. per noctem in Spr. Vin.* ℔ſs. *collet. pro Injectione*, after the Injection apply the following upon Dossils ℞. *zinzib.* ℥ii. *virid. æri* ℥ii. *mel. Rosar.* ℥iiii. *acet. opt.* ℥iv. *coq. ad crassitiem.* If the Bone be Carious ℞. *Vitriol. ust. Cantharid. abscissis alis et Capidibus, calc. viv. sal. Armoniac. alum. roch. ana p. æq. cum urin. pueri inspissat.* Whilst these Medicines are using, the adjacent Parts are to be defended and Fluxion restrained by coolling *Astringents.*

But the best way is to destroy both the Callosity and Caries with Actual Cautery, dressing the part afterwards, with *ol. ros. cum alb. ovi.* and a Compress dipped in the same over it; then digest and deterge, keeping the Orifice dilated with a Dossil pressed out of *Tinct. myrrh.* till the Bone exfoliates; then cicatrize with *Unguent. Tutiæ*, with good Compress. *The Use of Actual Cautery.*

A

SYSTEM

OF

Rational Chirurgery, &c.

PART. III.

CHAP. I.

Of Wounds in General.

The definition.

A Wound is a Solution of Continuity in any Part of the Body made ſuddenly, by any thing that Cuts or Tears, with a diviſion of the Skin.

The differences.

Wounds differ either as they are great or ſmall, deep or ſhallow, ſtreight or crooked, *&c.* or, according to the Nature of the Weapon they are made with; as whether it be ſharp or blunt, with a Sword or Bullet,

Bullet, or by Cutting, Pricking or Tearing. Differences which are more Essential are taken from the Part which receives the Wound, as whether it be Flesh, Skin, Vein, Artery, Nerves, Cartilage, Bone, *&c.* which differences are most properly essential, because the Intentions of Cure differ accordingly. Wounds differ likewise as they are Simple or Compound; with or without loss of Substance.

The Diagnosticks.

Wounds externally are visible and apparent. What Parts are wounded internally will appear by the Particular Symptoms that attend them; of which in their proper places, where Wounds of the several Parts are Particularly treated of.

The Prognosticks.

Wounds are more or less dangerous according to the Nature of them, and their Largeness, and the Parts wounded, as they are more or less noble, and according to the Symptoms and Accidents that attend them; as whether a Nerve, Artery, Vein, Tendon, *&c.* or any of the Viscera; or whether they be attended with Pain, Inflammation Hemorrhagy, Gangrene, Sphacelus, Spasmus, *&c.*

The Intentions of Cure.

In the Cure of Wounds we are to consider, whether they are Simple or Compound. In the Cure of a Simple Wound, since it is a Solution of Continuity, we are to endeavour to unite the parts separated, in doing of which there are Five Intentions.

The First Intention.

First, The taking away and removing all Extraneous Bodies, which interposing between the divided parts of the Wound, may obstruct the Union and Agglutination of them; as coagulated Blood, Hair, Dirt, peices of Bones, Cartilages, peices of Weapons, Rags, Splinters, *&c.*

The Second Intention. Secondly, The bringing of the Lips of the Wound together, which were ſeparated; which are to be even, that they may be the better diſpoſed to unite.

The Third Intention. Thirdly, The Retaining of them ſo, when brought together, whilſt Nature does her part in agglutinating them, and confirming that Cement which may preſerve them in their Natural Figure.

The Fourth Intention. Fourthly, The Preſerving the Natural Temperament and heat of the Part, that Nature may be the better able to perform her Part.

The Fifth Intention. Fifthly, The Preventing ill Accidents, which may pervert the Work of Nature; and the correcting ſuch Accidents as have already ſeized the Part.

Other Intentions in Compound Wounds. But if a Wound be compound, and attended with loſs of Subſtance, or Contuſion. There are other Intentions to relieve thoſe Accidents. If there be a loſs of Subſtance, that Subſtance muſt be ſupply'd by Sarcoticks, which may promote incarning, and ſupply the loſs of Subſtance. If Contuſion happens, the Contuſed Fleſh muſt be converted into Pus by Digeſtives.

How the firſt Intention is to be removed. But to proceed to the firſt Intention in the Cure of Simple Wounds. Which is the removing of Extraneous Bodies. In order to the performing of this Intention we are to conſider, whether that Extraneous Subſtance which interpoſes betwixt the divided Parts, can be extracted or not; alſo whether ſafely, and which is the beſt way. For ſometimes a peice of a Weapon or Splinter may ſtick ſo faſt that it cannot be drawn out, till the Parts about it Apoſtemate, and then it may be drawn out, or elſe is caſt out by Nature.

But ſometimes it happens, that a Weapon may be ſo lodged, that it may be dangerous to draw it out, the Patient dying if it be extracted: but where the Extraneous Subſtance may ſafely be taken away, the ſooner it is done the better and more eaſily, before the Part is Tumify'd and Inflamed.

Which way a Weapon is to be drawn out.

If the Weapon penetrate deep, paſſing thro' Veſſels which are great and in Nervous Parts; and if the oppoſite be full of Veins, Arteries or Nerves, or a bone lye in the way, it is to be taken out the ſame way it went in. But if it hath paſſed above half through, and there be none of the Veſſels or Parts juſt mentioned, in the way, it is better to thruſt it quite through or make way by inciſion, than to tear and diſturb the parts it went through in the Retraction. If the Weapon be faſt in a bone, it may be looſened by moving it to and fro, or if it cannot be got out ſo, it ought to be cut out. If it be faſt in a Joynt betwixt the two Bones, Extention being made it will come out the eaſier. And if the Wound was made in any Particular Poſture, the Body is to be put in that Poſture, which will render the Extraction eaſier.

What is to be done after the Extraction of Extraneous Bodies.

When the Weapon or other Extraneous Bodies are drawn out, it will be neceſſary to let the Wound Bleed, as the Strength or other Circumſtances may allow; by this means the Blood which was heaped up in the ſmall Veſſels will be vented, and if any, by the obſtruction made by the preſſure of Extraneous Bodies was heaped up and coagulated in them, or in the Wound, it will be waſhed away, and all the Veſſels clear, as well as the bottom of the Wound cleanſed, and Apoſtemation prevented. When the Bleeding is ſtopped the Hair about the Wound is to be ſhaved away, if there be any, that it may not

disturb the Lips of the Wound or hinder the Applications of Medicines. That being done, the Wound is to be cleansed of clotted Blood with a Sponge dipt in red Wine oxycrate or Water; but if it lye deep and there be danger of occasioning a fresh Flux of Blood, it is better to leave it to be separated and thrown out by Digestion.

How the Second Intention is to be promoted.

The Second Intention is to bring the Lips of the Wound together, that they may be ready to unite; and since all extraneous Bodies are to be removed, we are not to crow'd in others in the Room of them, by separating the Lips of the Wound with Pledgits or Dossils, which instead of assisting Nature, prolongs the Cure, and occasions ill Symptoms, as Pain, Inflammation, and Fluxion.

How the Lips of a Wound are to be brought together.

The Lips of the Wound are to be brought together gradually, and by degrees, that the Humours contained in the Lips of the Wound may be vented and give way to the Pressure, so that the Lips so brought together may be more easily retained: whereas if they were hastily pressed together, the Blood contained in the Tumify'd Lips, not having time to be discharg'd and press'd out, might be apt to Apostemate; or the swelled Lips violently put together, might tear out the stitches. If the Lips of the Wound are grown stiff with cold, they are to be softned, by fomenting them with Milk or warm Water, or they may be embrocated with Emollient Oyls till soft enough to be reunited. When the Lips of the Wound are brought together, care must be taken that they are equal, that they may be united and agglutinated in their natural evenes and smooth, which will sooner be done than when they lye one above another and unequal.

The

The Third Intention is to retain the Parts thus joyned together; which is done either by ſtiching or Rowling, or both together. *How the Third Intention is to be promoted.*

If a Wound be ſmall and in a Fleſhly part, and Longitudinal, according to the Tendency of the Fibres, it may be retained by Bandage; of which there are three ſorts. Firſt Incarnative or Agglutinative; Secondly Retentive, Thirdly Expulſive. *How many ſorts of Bandage.*

The Incarnative is made uſe of to bring the Lips of the Wound together, and to keep them in their Natural place, whilſt they agglutinate and grow together. This Bandage is ſtricter than the Retentive, and Slacker than the Expulſive Bandage. The Incarnative Bandage is made with a double headed Rowler thus The middle of the Rowler being placed on that ſide of the Part which is oppoſite to the Wound, the two ends are to be brought together on each ſide of the Wound, by which it's Lips will be brought cloſe; then having taken a turn or two about the Wound, one end is to be Rowled downwards and the other upwards, by which means, the Blood and other Humours are not only preſſed out of the Wounded part, but the Influx of Humours prevented. Where it is to be obſerved, that ſo many turns are to be taken with the Rowler, as are ſufficient to reſtrain the Flux of Blood, and to defend the Wound from the Influence of External Air. As likewiſe care is to be taken, not to Rowl too hard, leſt you intercept the Spirits, or obſtruct the Circulation of the Humours. *Of the Incarnative and how it is made.*

Of Retentive Bandage and how it is to be made. Retentive Bandage is serviceable only to fasten the dressings, and to keep them close to the Wound; for which Reason it needs not be very strict, nor too slack; for if so, it cannot be call'd retentive. This Bandage is cheifly of use in Wounds of the Head; but may be sufficient in other places where the Wounds are small, and there is neither danger of a Flux of Blood, or of the Influx of Humours.

Of Expulsive Bandage and the manner of making it. Expulsive Bandage is made with a Single headed Rowler, and is cheifly of use in Fistulous and Sinuous Ulcers, to expel the Humours and drive them out of the Orifice, or to prevent the Sinus from enlarging it self, or to keep the Parts close whilst they unite. The use of it in Wounds is to press the Humours out of the Wounded part if Superfluous, or to prevent the Influx of more. But otherwise it may be prejudicial and obstruct the motion and Natural Influx of the Blood and it's free reflux, by which the part may be deprived of it's Nourishment and Emaciated, therefore care is to be taken that it be not made too Strict. When it is necessary to be made, you must begin below the wounded part, and Rowl upwards; first you must Rowl strict, but as you come nearer the Wound Rowl easier; when you come up to the Wound, if you design to press the Humours out of the Part, Rowl easy a turn or two and then Harder, and so continue it up above the Wound to prevent the Descent and Influx of Humours.

Other sorts of Bandage. To these some add four other sorts of Rowling, as First *Fasciam Disjunctionis*, by which the parts are kept asunder, and from preternaturally growing together, as when the fingers have lost the Cutis. The Second is, *Fascia Directionis*, by which a crooked part is made streight, or a part preternaturally streight is reduced to it's

it's Natural Figure. The Third is *Fascia Apostema faciens.* By which the matter is encouraged and detained in some particular place, lest it should fall upon some other more Noble. The Fourth is, *Fascia Apostema prohibens*, which is expulsive Bandage.

How the Rowlers are to be made.

As to the Nature of Rowlers they are to be made of old strong and even Cloth, without any Hem or Seam, that they may lye smooth and easy upon the Part. They are also to be of a convenient Length, according to the bigness of the Part, and as more or less turns are requisite, as also according to the different seasons of the Year, more turns being necessary in the Winter and cold weather, to keep the Part warm and to defend it from external cold, which makes a Wound crude and full of indigested Humours. As to the Breadth, they are to be proportionable to the part, where they are to be made use of, as for a thigh, they are to be broader than for a Leg, and for an Arm than for a finger; but a moderate proportionable breadth is to be used in all, since a narrow Rowler will Rowl more smooth and even on any part than a broad one, which is apt to press upon and indent the part with it's edges, if too broad; especially a Leg, which being of unequal Circumferences the Rowler is apt to press more with one edge than another. When the Rowler is bound about the part, it is to be made fast where you may easily come at it again to loose it, being neither made fast upon the Wound, which will be troublesome to the Patient, nor is it to be tyed, lest it make the part it lyes upon uneasy.

How many sorts of Sutures.

But the Lips of a Wound are not only to be kept together by Rowling, but likewise by Suture; of which there are three kinds. *viz.* The Incarnitive, The Retentive, and the Conserver.

The

The First sort. The first is most commonly used, and is performed by making several Stitches at a convenient distance one from another, which are to be closer or may be more distant, as the Lips of the Wound require more or less force to keep them together.

The Second. The Second is Glovers Stitch, which is most necessary in great fluxes of Blood, where the parts are to be brought close to one another.

The Third. The third is the most Useful in great Wounds, where the Parts are difficult to be kept together, and apt to break other Stitches; It is performed as in Hair Lips with pins and needles.

The manner of Stitching the Peritonæum. Besides these three, there is another Stitch which is convenient in the Wounds of the Belly; which is, to take up the Peritoneum on one side, and leave it on the other by turns; by which means the Peritoneum is united with the Musculous Flesh, which would otherwise lye open, and the Patient be apt to a Rupture. The Thread made use of on this Occasion must be strong, round and white, that it may be sufficient to retain the separated Parts without breaking.

The manner of stitching. In Stitching of Wounds, the Stitches are to be at a Convenient Distance. In the stitching of common Wounds they are to be made according to the Length of the Wound, about a fingers breadth distant from one another. As for the time they are to be taken out again, it ought to be sooner or later as the Parts agglutinate; which is according to the difference of Constitutions and the goodness of the habit of Body. In the face they ought to be taken out sooner than in other parts lest they should cut the Skin and leave Scars in the face; but that danger may be prevented by making use of the dry Stitches. They are made with little pieces of Linnen Cloth of a triangular or quadrangular figure spread with a mixture

mixture of *Sang. Dracon. Thuris, Aloes, ſarin. trit. gum. tragacanth. ana. part eq. cum alb. ov.* of ſuch a Conſiſtence that they may ſtick faſt to the Skin: they are to be applyed at a convenient Diſtance, and when they are dryed on, the Lips of the Wound are to be brought together and ſo retained.

How the Fourth Intention is performed.

The Fourth Intention is to preſerve the Natural Temperament of the Part, that Nature may not be diſturbed in performing her part, which is to unite the ſeparated parts; and that is done either without, or with a Medium: when it is done without a Medium, it is called *Symphyſis* or Curing Wounds by the firſt Intention: when a Medium interpoſes it is called *Syſſarcoſis* or curing by the Second Intention.

The Temper of the part how to be preſerved.

But whether a Wound is to be cured by the firſt Intention or the Second, Since Agglutination and Incarning are both the Work of Nature, it is requiſite that the Part ſhould be kept clear of ill diſpoſed and vitiated Humours, which might deſtroy it's Natural Temper, and diſturb and pervert Nature in her Work: And ſince the Temper of the part cannot be preſerved if there be an Intemperies of the whole, if there be any vitious or depraved humours in the Body, they are to be diſcharged by proper Evacuations and corrected and brought to their Natural Craſis by proper Alteratives, that Nature may either Agglutinate or Incarn with the aſſiſtance of proper external Applications.

Diet.

And firſt, in order to preſerve the temper of the Part and reſtore or continue the due Craſis of the Humours, it is requiſite the Patient ſhould obſerve ſuch a Regimen in Diet, as may be conſiſtent with the Conſtitution of his Body, and the Nature and Symtoms, or other Accidents that attend the Wound; Yet the Courſe of Nature is not wholly to be altered, that being the way rather

ther to occasion than correct an Intemperies, therefore respect is to be had to the Patients manner of Living, and if his Body be Plethorick, a moderate Diet is convenient, but if the Body be weak, such a Diet is convenient, as may afford good Juices and wholesome Strengthning Nourishment, that the Natural and Balsamick Crasis of the Blood may be preserved. Their Drink ought also to be good and such as may agree with their method of Living, only moderate in Quantity, avoiding all excess which may Inflame the Blood, and consequently affect the Wound; Care is also to be taken to preserve a good digestion, that Cruditives may not be heaped up and breed an Intemperies in the Part.

Bleeding and Purging requisite.

But a Regular and convenient Diet is not only to be observed, but a sufficient discharge to be made (if the Body be Plethorick) by Bleeding; and if there be a Cacochymia or ill habit of Body Purgatives are also necessary; yet they are not to be strong, lest they heat and stir up humours, which being separated from the Blood and not discharged, may fall upon the Wounded part; they are therefore to be Mild and Lenient that they may discharge gently and without raising any ferment in the Humours, as *Cassia Tamarind. Manna Rhubarb. Senna* with *Sal prunella*, or *Elect. Lenitiv.* Syr. *de Rosis Solut. de Cichor. cum Rheo. &c.*

Vulnerary drinks and Alteratives requisite.

Vulnerary Drinks are also requisite made with some of the following Herbs. Viz. *Comfry, Bugle, Ladies Mantle, Agrimony, Sanicle, Pauls betony, Fluellen, Periwincle, Mugwort, Plantane, Horsetail, Adders tongue, Avens, Cinquefoill, Wild Tansie, Vervein, Ground Ivy, Golden rod, Herb. Trinity, Century, St. Johns wort, Snake weed, Knotgrass, Mouse ear, Yarrow, Scordium, Strawbury Leaves and Roots, Tormentil, Bistort, Valerian, red Roses*, &c. boiled in Water or Wine with an Addition of Honey, or *Decoct. Traumatic.* in the London Dispensatory.

tory. But these are chiefly used in Wounds of the Breast and Abdomen; but often in great wounds. Sometimes to the forementioned Vulnerary Drinks, *Sarsaparil. Lig. Guaj.* &c. may be added. Antiscorbutick Medicines are also useful, and maybe prescribed in the form of Electuarys, Powders or otherwise, as may be most grateful to the Patient.

To prevent Inflammation.

Thus much for the Correcting of the Crasis of the Humours by the Use of Internals. But while Care is taken to correct the Indispositions of the Humours. Regard is to be had to the Part it self; and since Pain is a common attendant of all Wounds and often occasions Inflammation, which exciting a fermentation in the Blood, causes hot humours to fall upon the Part and raise Tumour, those Accidents are to be prevented, by proper Applications in the beginning, which may preserve the Temper of the Part, and also promote Agglutination as *bol. Armen. Sang. Dracon. Thus, Aloes, Gum. Elem, Colophon.* and *Terebinth*, applying over them cooling Astringents which may allay the Pain, and resist the Influx of Humours. As Cloths dipt in the Juices of *Plantag. Equiset. millefol vinc pervinc. Ulm.* or red *Wine* or Oxycrate, to which Juices, the powders of *fl. ros. rubr balust. N. Cypres. gallar. farin hord. et fabar. cum ol. matur. Olivar.* may be added as the Condition of the Part and Nature of the Constitution require.

Small wounds how to be dressed.

In small Wounds a Pledgit of *Linimentum Arcæi* with Astringents over it to prevent Fluxion, with Bandage, is sufficient. But if the Wound be great, when the Lips of the Wound are to be brought together and also retained by Suture, sprinkle some of the following powder over the Wound, ℞. *Bol. Armen. Thuris, Sang. Dracon. ana part. eq.* applying also astringent agglutinative

tives mixed with the whites of Eggs over that, and a Compreſs wrung out of Oxycrate over all, with good Bandage. But leſt the Lips of the wound ſhould be torn and diſturbed with taking theſe Aſtringents off next dreſſing, it may be convenient to apply over the powders ſprinkled on the wound, a Pledgit ſpread with one of the following Unguents ℞. *Terebinth. venet.* ℥iii. *Gum. Elem.* ℥ii *Sang. Dracon, Thuris Maſtich. ana.* ℥i. *M. f. Unguent.* or ℞. *Terebinth.* ℥ii. *Reſin pin. oliban Coloph. ana.* ℥i. ſs. *Maſtich.* ℥i. *Croci* ℥i. *ceræ* ℥ii. *ol Hyper. q. ſ. f. Unguent.*

How Agglutination is performed by Nature.

By this Method, if the Lips of the Wound are kept together they will ſoon be agglutinated; but ſince Agglutination is the Work of Nature, and only aſſiſted by Art, we ſhall conſider, how Nature does her part, and how ſhe is aſſiſted by the uſe of Medicines. How Nature performs her part in this Reſpect may be eaſily conceived, by obſerving, how ſhe behaves her ſelf in ſupplying the loſs of Subſtance, and uniting of other parts; which I have explained in the firſt Chapter of the ſecond Part of Incarning of Ulcers; and in the Chapter of Ulcers with Caries, I have ſhewn; how a Callus is generated, from what has been ſaid of both it appearing; that both of thoſe Actions of Nature are performed by the Appoſition of the ſanguineous Particles of the Blood; which is evident from the progreſſive ſteps of Nature, and the Colour of the Subſtance newly made, however it's Texture may be altered afterwards, which may occaſion a Change of Colour, ſince Colours are nothing but a different Reflection and Refraction of the beams of Light, variouſly modify'd in their Paſſage through the Air, as their motion is determined from the Superficies of a Body; which happens

happens to be different as the Texture of that Body is different; Forms and Qualities ariſing from a various Contexture and Modification of the parts of matter, differing in ſize and figure; but this by the by: ſince then Nature both incarns and generates a Callus by the Appoſition of the parts of the Blood, it is much more likely ſhe ſhould Agglutinate by the Appoſition of the parts of the ſame, than by the Parts of the Serum, which are thinner and leſs apt and inclined to a ſolid form; but the parts of the Blood being Viſcous and Tenacious, preſently looſe their fluidity when once they have loſt their Circulation, which Agitation preſerves their parts in Motion, and keeps them fluid; but when they come to the Extremities of the Veſſels, and looſe their motion, they preſently ſhew their diſpoſition to firmneſs, and ſolidity.

Since it is moſt likely that Agglutination is performed by the Appoſition of the Parts of Blood, we ſuppoſe, that as when the Veſſels are divided by a Wound, the Blood is extravaſated into the Cavity of the Wound, or rather, to ſpeak more properly betwixt the Interſtices of the Lips, and is apt to coagulate and grow grumous by being expoſed to external Cold, ſo when thoſe Lips are brought together and the Orifices of the Veſſels cloſe to one another, the Blood being no longer expoſed to external Cold, retains it's Proper and Natural fluidity, and being preſſed out of the Extremities of the Veſſels on one ſide, and having no Cavity to receive and lodge it it is protruded by ſucceſſive Blood into the Orifices of the oppoſite Veſſels, which are ready to receive it, the Blood contained in them having no retrogade Motion to oppoſe it's Entry, but being drove before it, the Blood continueth its natural Courſe and Circulates as it ought to do: but ſince there

there is not a Continuity of these Vessels, but only a Contiguity, it is but Reasonable to suppose, that some parts of the Blood, as it is squeezed out of one Vessel into another will be apt to insinuate themselves betwixt the divided Vessels; and when once these parts are got betwixt the Vessels, being there out of the Way of the moving Blood, and consequently loosing their Motion, they presently coagulate and assume a solid form, (for solids only differ from fluids as the Parts of the former are at rest, and the Parts of the latter are in continual Motion, or at least lye so upon one another as to be easily put in Motion and disposed to give way to the Impression of another Body;) and since whilst they are fluid they are apt to give way to the Impression of a solid Body, and to insinuate themselves into the pores of it, we must conclude that these parts of Blood, which lye betwixt the Vessels being pressed upon by other Blood contiguous to them, they will be crouded into the pores of the Extremities of the Vessels, and like soder melted in betwixt two Bodies it is to cement, they configure and form themselves according to the figure of those pores, and being out of the way of Circulation, and loosing their Motion, they grow solid and firm, and like soder when cool, agglutinate the Extremities of the Vessels, and renew their Continuity. Thus Nature seems to perform the Work of Agglutination.

How Agglutination hinder'd.

From what we have said it appears, how Nature performs her Part in agglutinating divided parts, as long as the Blood retains it's Natural Temper and Disposition, but when the Crasis of the Blood is perverted and vitiated, and the Serum is either too thin, or sharp and corroding, Nature is obstructed and hindered in performing her Office. When it is too thin, it

interposing

interposing betwixt the Parts of the Vessels and the Blood swims them off,and will not suffer them to rest betwixt the Extremities of the divided Vessels, but swiming betwixt the Vessels themselves, divides them,as well as hinders Agglutination : and when the serum is too sharp and fretting, it not only prevents the particles of the Blood from uniting the Vessels, but even corrodes and separates the parts of the Vessels,and destroys their Continuity and Texture, though confirmed by so long a Continuance, as the Life of the Person.

It appearing from hence,how Nature is obstructed in Agglutinating, as well as how she performs her part, it will be no difficult Matter to understand, how Medicines promote it, and assist Nature, especially if we consider their Qualities, and what Effect they may have upon the Humours internally or externally.

How Internal Medicines promote Agglutination.

As for the Nature of Internals, from the Method here proposed it appears, that they are serviceable not only in altering and correcting the ill Qualities of depraved Humours, but likewise tend to the incrassating and thickning the Blood and Serum: For since Traumaticks consist of Medicines which incrassate the Serum and Blood, either as they allay and correct the hot acrimonious Parts by their cooling Quality, or incrassate and thicken the Humours by their Astringency ; theSerum thus thickned is prevented from flowing so plentifully in betwixt the Lips of the Wound ; and having likewise lost it's sharp indisposition, the particles of the Blood more easily settle betwixt the Vessels,and Agglutinate, being neither swom off with it's superfluous Quantity, nor fretted and corroded by it's acrimony ; the Blood being likewise thickned by these adventitious Qualitys is disposed the sooner and more

easily to coagulate and adhere to, and consequently unite the Extremities of the Vessels, and restore their Continuity; and as Traumaticks have this Effect by their Cooling and Astringent Qualities, as well as to correct the Blood by their bitterness, so the decoction of *Sarsa* and *Guajacum* tend to thickning the serum by consuming and dispersing the thinnest part of it by *Diaphoresis.*

How Agglutination is promoted by Externals.

As for Externals since they are either Astringent or Rezinous and Gummy as well as Balsamick, they likewise by their Astringency promote Agglutination by thickning and inbibing the superfluous thin serum, whilst the Rezinous Balsamick parts not only incrassate the Blood, and Serum and render them more viscid also, and apt to cement the part, but likewise correct the sharp parts of the Serum, and prevent it from fretting and disturbing the particles of Blood, disposed to agglutinate and unite the Separated Parts.

What is to be done in Wounds with loss of Substance.

Thus much of the Agglutination of Simple Wounds. But when a wound hath not only a Solution of Continuity but also a loss of Substance, and comes under the Denomination of a Compound wound, instead of being agglutinated, that loss of Substance is to be repaired, by the Generation of new Flesh, and the Interval to be filled up by incarning.

Stitching requisite.

In order to the Union of these Parts, the Wound being first cleansed, the Lips of the Wound are to be brought as near as may be together, by the Incarnative Suture; with such a Number of Stitches as may be sufficient to retain them; and if the Incarnative Stitch is not strong enough you may make use of the Conserver, passing Pins and Needles through the Lips of the Wound, with little Plates of Lead to defend them from tearing. But if for want

want of timely care the Lips of the Wound grow ſtiff and ſwelled, ſo that they cannot be brought together, they muſt be relaxed with Emollient Fomentions. *ex fol. et rad. Althæa, malv. viol. ſem. lini. fenugræc.* &c. and if they are ſo deep, that their incarning at the bottom may be ſuſpected, a declining Orifice muſt be left for the diſcharge of the Matter, which may be kept open by a ſmall Tent, till the matter is digeſted, and then healed up according to the uſual Intentions, leaving out the Tent that the Part may fill up.

In large Wounds with loſs of Subſtance what is to be done.

But when Wounds are ſo large, that they cannot be brought together by Suture, they are to be brought to Digeſtion; and ſo diſpoſed to incarn: In ſuch Caſes the following Digeſtive may be proper. ℞. *Terebinth.* ℥ii. *farin. hord.* ℥vi. *Thuris* ℥i. *M. cum Vitel. ov.* When the Wound is ſufficiently Digeſted deterge with *Mundificativ. Paracelſ.* Or the following from *Quercetan* which will alſo incarn. ℞. *fol. Plantag. apii ana M. i. roſ. rub. P. ii. Vin. rub.* ℥viii. *Coq. ad Medietat. Colat. add. Sacchar. rubr.* ℥ii. *Terebinth.* ℥i. *farin. Junip. & Orebi ana* ℥vi. *Aleo Myrrh. ana* ℥i. *decoq. rurſus & addend. Ceræ. q. ſ. reduc. ad form. Unguent.* The Part ought likewiſe to be Fomented every dreſſing with Cloths wrung out of a Decoction of *fl. roſ. rubr. Baluſt. N. Cypreſs*, &c. in red Wine, which will preſerve the Natural Heat, and promote the Intentions both of Art and Nature. If the Wound be full of Maggots as theſe great Wounds often are, they are to be waſhed with a Decoction of *Abſinth. Card. Benedict. Scord. Rad. Gent. Myrrh. Aloes*, &c. which prevent Putrefaction and Corruption. But whilſt the Wound is thus taken care of, and dreſſed with proper Medicines to recover the loſt Subſtance,

the Influx of Humours muſt be prevented, by Bandage and External Applications; which are both Cooling and Aſtringent, that they may temper the Heat of the Part, as well as repel the Humours which might flow upon it, the Humours are likewiſe to be diverted by Bleeding and Purging, and Corrected by proper Internals, as the Conſtitution and Temper of the Perſon ſhall indicate. And a due Regimen likewiſe is to be obſerved in Diet. When the Wound is ſufficiently digeſted and deterged, we are then to incarn and cicatrize; as in other Caſes where theſe common Intentions are required.

Of Contuſed Wounds. If a Wound be made by Contuſion, either by a Fall or Blow; the Contuſed Fleſh is to be conſumed by digeſtion. To which purpoſe *Baſilicon* with *ol. Lumbricor.* warm, may be proper, Embrocating the Parts with *ol. Roſ. myrt.* &c. *cum Aceto*, with a Reſtrictive over all, *ex bol. Armen. Sang. Dracon. fl. roſ. rub. baluſt.* &c. *cum Alb. ov.* And if the Wound hath been made a Conſiderable time before it is dreſſed, it muſt be firſt Fomented with Diſcutients, to ſtir up and recover the Natural heat in the Part; and Embrocations with warm Diſcutient Oyls. As *ol. Lumbricor. Cham. Rut.* &c. to prevent the Coagulation of the Humours in the bruiſed Veſſels, which will likewiſe promote and aſſiſt digeſtion, and the Separation of the Contuſed Fleſh. The Wound digeſted is to be deterged, incarned and cicatrized, according to the common Intentions. If the Wound be deep, and the Orifice too narrow for the Diſcharge of the matter, it muſt be enlarged; and if Sinuous ſo that the matter cannot be diſcharged; an Orifice is to be made in a declining Part, by Knife, Cauſtick or a Seton-Needle, as in Sinuous Ulcers, and dreſ-

ſed

ſed with *Terebinth. cum alb ov.* on a proportionable Tent; Embrocating the Part with *ol. Roſ. Myrt.* &c. and applying *emp. de Bol.* over all, with good Compreſs and Bandage.

From what hath been ſaid of Compound Wounds, whether by Inciſicion or Contuſion, it appears, that the Intentions of Cure differ from the Intentions in Simple Wounds, the Loſs of Subſtance being reſtored by digeſtion, deterſion, and incarning as in Ulcers; ſince then we have given an Account of the Reaſon of Digeſtion, and the reſt of thoſe Intentions in the Firſt Chapter of the Second Part of Ulcers in General, we ſhall not repeat them here, but proceed to:

Of the Fifth Intention in the Cure of Wounds which reſpect ill Accidents.

The Fifth Intention in the Cure of Wounds, which is to prevent ill Accidents, and correct ſuch as have already happened. As Hæmorrhagy, Pain, Fever, Intemperies, Convulſions, Syncope, Dilirium, and Palſie.

Of Hæmorrhagy.

Hemorrhagy is an Accident incident more or leſs to all Wounds; when it happens in Simple Wounds, the way to ſtop it, is to bring the Lips of the Wound cloſe together by ſtitching, and applying Aſtringent powders mixed with Agglutinatives. As *Galens* powder of *Aloes P. j. Thuris P.* ii. and *Hares furis*, mixed with the White of an *Egg*, with Aſtringent powders over all, and good Compreſs and Bandage. If the Lips of the Wound cannot be brought together, the forementioned powders may be applyed upon Pledgits or Doſſils with Aſtringent Plaiſters over them, and good Compreſs and Bandage, or Pledgits or Doſſils dipt in *ol. Terebinth.* may be applyed inſtead of the former powders, afterwards placing the Part in a Convenient

Posture. When any large Vessels are Wounded, what Method is to be taken will appear in the next Chapter of the Wounds of Veins and Arteries.

Of Pain. If Pain attend a Wound it occasions Inflammation and Tumour, if not presently removed; To which end, when it happens to be considerable, Bleeding is necessary to empty the Vessels, that there may be less Fluxion and force of Humours upon the Part; and that the Quantity of Humours being diminished, the rest may be cooled and tempered by being mixed with such things as may correct the hot Humours in the Blood. Anodynes also are proper, not only internally, but externally, as Fomentations and Emollient Cataplasms of *fol. & rad. Althaa malv. violar. hyosciam. Thapf. fl. ros. cham. mel. sem. lin. fenugrac. cydon Psylli. papav. alb.* &c. boiled in broth made of Sheeps Heads and Feet or Milk. In the beginning Cataplasms made of *farin. hord. fabar. fl. ros. rub. sambuci*, boyled in red Wine or Oxycrate, adding oyl of *Roses cham. lin.* &c. If inflamed *fol. hyosciam.* boyled in Milk, or crumbs of white-bread, with a new laid *Egg*, and *Saffron* and oyl of *Roses* may be applyed in the form of a Cataplasm. If it tend to supuration it is to be handled as a *Phlegmon.* If a Nerve be concerned, as the Wounds of the Nerves; and if for want of a free discharge of the Matter, Vent is to be given either by Knife or Caustick. How these Medicines relieve this Symptom hath been shewn in the First Part of Tumours which I need not repeat here.

If

If a hot Cholerick Serum occasion an Intemperies in the Part, as in an *Erysipelas*, *Unguent. Nutritum*, *populeon*, *Refrigerans Galeni*, *Unguent. alb. camphorat.* are proper or ℞. *suc. Plantagin. Solan. Semperviv. ana* ℥i. *Bol. Armen* ℥ s. *Litharg. in aq. Plantag. lot. & Tutiæ præp. una* ℥i. *ol. rosar. omphac. nymph. ana* ℥ii. *acet. rosac. et ceræ q. s. f. Unguent.* If the Tumour be Oedematous, warm Discutient Fomentations are proper; as *fl. cham. melilot. Sambuc. aneth. Sem. fenugræc.* &c. with good Bandage, to drive out the Humour attenuated by discussion, and support the relaxed fibres that they admit no more. How these Medicines perform their Work, hath been shewn sufficiently in the Chapters of *Erysipelas* and *Oedema*. *Of a hot Intemperies.*

Fever is a Common Attendant of Pain and Inflammation, those Symptoms disordering the regular distribution of the Spirits, and raising a Fermentation & Extraordinary heat in the Blood. But if the Fever continue when the Pain and Inflammation are over, and be attended with *dilirium* and *Syncope*. The hot ill tempered Humours are to be discharged by Bleeding, *Vesicatories*, *Clysters* and *Lenient* Purges. The Intemperies of the Blood is also to be removed by cooling Juleps, Emulsions, *&c.* How the other Symptoms of Gangrene, Convulsions, and Palsie happen, and how they are to be remedied will be hereafter considered; and how the rest of the Symptoms are occasioned, and how remedied, and by what Medicines, hath been already considered; except the Reason of Vesicatories, which we shall here briefly explain. *Of a Fever.*

How Vesicatories raise Blisters.

How Vesicatorys perform their Orifice and raise a Blister may easily be understood, if we Consider the Nature of *Cantharides*, and the Nature of the Parts they are to Work upon. And since *Cantharides* consist of Parts very pungent and hot, and are always applyed with something that is oyly, Mucilaginous or Gummy, we suppose, that those Oyly Mucilaginous or Gummy Bodies clog up the pores of the Cutis, and prevent the serum Separated by the Glands of the Cutis from being freely discharged through the pores of the Cuticula, except some of the finest Lympha; which being hindered from evaporating, is condensed and collected betwixt the Gummous Plaister and the Cuticula, where it is impregnated with the Volatile Corrosive pungent parts of the *Cantharides* in which they are dissolved; now tho' the Serum separated in the Glands of the Cutis, is too gross to pass thro' the pores of the Cuticula, yet the pungent Volatile Parts of the *Cantharides* do, and inpregnate the Serum contained under the Cuticula with their sharp biting particles; which affecting the Nervous Papillæ, occasion pain; and consequently warm and heat the parts; by which heat, as well as by the Volatile parts of the *Cantharides*, the Humours are so rarifyed in the Cutis, that they are separated faster than they can be discharged by the pores of the Cuticula, which they by that means separate, and raise a Blister; and that the Pungent Saline Parts of the *Cantharides* affect the serum in these Glands, or what is more difficult, the Blood in the Blood Vessels, is evident, since a great many, by the use of Blisters, have been affected with a Dysuria or a Strangury; which shows, that they do so penetrate and affect the Blood with their Volatile Parts, otherwise they could not be translated into another Part.

CHAP.

CHAP. II.

Of the Wounds of the Veins and *Arteries.*

WHen a Vein or Artery is wounded, they discharge so much Blood, that it is requisite they should be presently releived.

Wounds of the Veins and Arterys How distinguished.

Whether the blood flows from the Veins or the Arteries is easily discovered, by the manner of its flowing out. From an Artery it leaps out with a great deal of force, and by turns, according to the Pulsations of the Heart, and is of a florid Colour; whereas the Venal blood flows out with a constant strain, of a thiner consistence, and a darkish Colour.

The Prognosticks.

Wounds of the Veins are not dangerous, being cured by the Application of Galen's powder with the white of an Egg, and Restringents over with Compress and Bandage. But if an Artery be wounded it is hard to stop, the blood being in a violent motion.

The Cure. If wounds of the Arteries have neither loſs of ſubſtance nor bruiſed Lips, the Lips are to be brought together, and the Arteries oppoſite to one another, and ſecured there with the Glovers ſtitch, with a ſtrong waxed thred, applying the following over it, ℞. *Bol. armen.* ℥iii *ſang. dracon. thur. aloes glutin. ſic. ana* ℥i. *gypſi farin. volat. ana.* ℥ſs. *hyp. coſte. acacicet. ſumach. ana.* ℥iii. *M. cum alb. ovi.* upon which apply a Compreſs preſſed out of Oxycrate or red Wine, then with a double Rowler take a turn or two about the place and rowl upwards and downwards to preſs the blood out of the Parts and to prevent fluxion. The Part is alſo to be put in a Convenient poſture; the Body cool and quiet, and a ſlender diet to be uſed and the Patients drink cooling and Aſtringent, as *Aq. font. cum. acet.* or *ſal prunel.* ſweetned with Syrup of *Coral*, *Pomgranates*, *Limons.* or ℞. *Croc. martis. Eſſentiæ Corallor. ana.* ℈i. *roſ. ſic. et myrt. ana.* ℥i. *aq. papar. rhead.* ℥iv. *M.* or *decoct. hord. cum. ſem. papav. alb et hyoſcyam.* ſweetned with Sugar of *Roſes*; or *Laudanum* may be given as the ſtrength of the Patient will bear it. Revulſion may alſo be made by bleeding, cupping or ligature, or doſſils dipped in *ol. Terebinth* hot may be applyed to the bleeding Veſſel, with good compreſs and bandage.

When the Wound is dreſſed it is not to be opened under five or ſix days, leaſt the part bleed again, but if notwithſtanding theſe endeavours to prevent it, the Veſſel bleed again, if poſſible, the Artery is to be taken up and tyed, and dreſſed with Incarnatives, &c. as in an *Anuriſma*. If the Veſſel cannot be taken up, the Bleeding is to be ſtopped with Eſchorotiks or Actual Cautery.

Before

Eſcharotick when to be Applyed.

Before Eſcharoticks are applyed, the wound is to be well cleanſed, and then doſſils may be applyed to the Bleeding Artery, dipt in the following powder ℞. *Thur. pulv.* ℥ii. *Aloes glut. ſic. ana.* ℥i. *calcanth. uſt.* ℥ii. *arſenic.* ℥vi. *gypſi.* ℥iii. this being applyed on lint, and Doſſils dipt in *alb. ovi. cum pulv. galen.* the part is to be guarded by Defenſitives, and bound up with good Bandage, or inſtead of the forementioned powder *Vitriol* powdered and tyed up in a fine rag may be applied to the Artery, with convenient dreſſings over it. The next dreſſing, the Eſcharotick is to be left upon the Artery, and the wound incarned.

Actual Cautery when to be apply'd.

But if this is not effectual, the Artery is to be ſhrunk up with Actual Cautery, paſſed down to the bleeding Artery through a *Canula*, as in a *Caries*. The Cautery applyed and the ends of the Artery ſhrunk up, the Cauteriſed part is to be dreſſed with doſſils dipt in *Mucilage* of *Quinces*, or *alb. ov.* embrocating the part with *oyl* of *Roſes*, and a plaiſter of *Diachalcit. cum. ſuc. plantag.* over all; when the heat of the part is aſſwaged, digeſt, incarn, and cicatrize.

CHAP.

CHAP. III.

Of the Wounds of the Nerves, Tendons, and *Ligaments.*

The Diagnosticks.

NErves and Tendons are wounded either by Puncture or cut, If they are cut through they are irrecoverable; the signs of a Wound in these parts are great Pain and Inflammation; and Contraction, and Hardness in the Nerve or Tendon. If a Nerve is cut in two and divided; the part is more or less stupifyed and lame, as the Nerve is considerable. If a Nerve or Tendon be pricked a sudden and violent Pain ensues, with fainting, convulsions, and great Fluxion; and instead of of Matter they issue out a thin gleet.

The Prognosticks. Wounds of the Nerves and Tendons are all Dangerous, but the Transverse ones more than those which are length-ways. The Wounds of the Nerves are more violent and sudden than those of the Tendons.

The Cure. In the Cure of these Wounds we are to consider, whether the Nerve or Tendon lye bare, or covered with the Skin; if covered, they are to be laid bare, by dividing the Skin or Membranes that cover them, that Medicines may be applyed to the part affected; which ought to consist of parts which are warm and very Subtle to preserve the Natural heat of the Parts, and dry up that Gleet that issues from them. In the Beginning oyl of *Roses* with *bay salt* dropt hot in the part, will be sufficient, with a Pledgit of *Basili-*

con

con over it as a Lenient to aſſwage the Pain and mollifie the part; alſoEmbrocations with *ol. Lumbricorum*, will be proper to diſcuſs the Humours which might ſettle about the part and tumify;and *Emplaſt. de Bolo.*over all to defend the Parts from the Influx of Humours. If the Wound be attended with much tumour and inflammation,the following Cataplaſm may be applyed ℞. *far. hord. et fabar. ana.* ℥iv. *ſem. lin. fenugræc. ana.* ℥i. *fl. roſ. rub. ſambuci, ſum. abſinth. ana.* ℥iii. *coq. in Vin. vel. lixiv. addend. Oxymel.* ℥iii. *ol. Roſ.* ℥i. which by it's emollient Qualities will ſoften the Tumour, and by relaxing the parts aſſwage the Pain and Inflammation, whilſt the diſcutients, attenuate the humours ſettled in the Tumour; and the Aſtringents contracting the Parts contribute to the expelling of them which is promoted by moderate Bandage. If the Pain be violent it is to be renewed twice a day. When ſtronger Medicines are required to dry up the thin gleet *ol. Terebinth. Bals. ſulph. Terebint. ol. Rut. Sabin. Scorp. eneth.* may be uſed by themſelves or mixed with *Bals. Lucatel.* or ℞. *ol. Sabin. Terebinth.* ℥ii. *M.* But care is to be taken that the Medicines are neither too hot nor too cold. It they are too hot, the Part will itch and ſmart and the Lips of the Wound open; if too Cold the Gleet will continue or increaſe; but if the Medicines are agreable with the Part; they will affect it with a Moderate Heat, If the hardneſs abate and the Lips of the Wound relax, it is a good ſign. But if the propoſed method prove ineffectual, the beſt way will be to divide the Nerve or Tendon,leſt worſe Accidents follow, as Convulſions, Gangrene, Spaſms, *&c.* After diviſion the Wound is Cured by the Common Intentions as otherWounds,the Part being kept in a Conveninet Poſture. But,

Sometimes

Of the Accidents that attend Bleeding.

Sometimes in Letting Blood, by Bandage or Position, the Skin which lyes equal with the Orifice, by altering the Position of the Arm, or when the Bandage is loosned is drawn over the Orifice, and Extravasated Blood lying under the Skin occasions an Ecchymosis; or when the Orifice is made well, and there is no fault in the *Chirurgeon*, through the ill disposition of the Humours, the Part festers and occasions a Phlegmon; which neglected occasion Tumour and Inflammation, and other ill Symptoms, which are imputed to the Pricking of a Nerve or Tendon; but if taken care of in time, a Pledgit of *Basilicon* warm, will be sufficient, Embrocating the part with *ol. Rosar.* and *Emplast. de Bol.* or *Diachalcit.* malaxed with *ol. Rosar.* applyed over it. What method is convenient when those Parts are Wounded by a Lancet, hath been shewn elsewhere in the first Part of Tumours; in the Chapter of an *Ecchymosis.*

Of the Ligaments.

If the Ligaments are Wounded, they require much the same Method with the Nerves and Tendons; only the Parts being themselves dry, require Medicines more drying to stop their Gleet. As *Euphorb. Sulph. Viv. calx. Lota. Tutia*, &c.

CHAP.

CHAP. IV.

Of Wounds of the Face.

IN Wounds of the Face Care ought to be taken, that the part be not disfigured and deformed as much as possible, but if stitching be necessary to bring the Lips of the Wound together, the part after stitching is to be dressed with proper Agglutinatives, sprinkling a little of *Pulv. Galen.* over the Wound with a Pledgit of *Linimentum arcæi* and *Emplast. de Bol.* as a Defensative, and a Compress wrung out of Oxycrate, with convenient Bandage over all. As soon as it may be convenient the stitches are to be Cut, before they cut through the Skin and endanger disfiguring the Face with scars; and the Lips of the Wound are to be retained close together by the help of the dry stitch, dressing the wound as before, and making such Bandage as may Compress and keep the Lips of the Wound close together, and assist the dry stitches. *Cautions to be observed*

If the part be attended with Fluxion and inflamed, embrocate with *ol. Rosar. cum. aceto.* and make Revulsion by Bleeding, Purging, *&c.* allaying the ferment and heat of the Humours by a Cooling diet, and Anodyne Draughts, *&c.* *What is to be done in case of Fluxion.*

If

Agglutination it is to be promoted If the Body abound with hot thin Humours which may hinder Agglutination, the Lips of the wound are apt to separate again, after they seem to be agglutinated; in which Case, the use of *Linimentum arcæi* is not to be continued, but the wound is to be dressed with drying Medicines, which may imbibe and consume that superfluous Moisture; and the Wound will heal of it self, and Agglutinate, Medicines proper in such Cases are *Unguent. alb. Camp. Tutiæ. Desicativ. Rubr.* &c.

CHAP. V.

Of Wounds penetrating the Oesophagus and Aspera Arteria.

Wounds of the Oesophagus how treated. WOunds which penetrate the Oesophagus or Aspera Arteria ought to be stitched very close; especially the Oesophagus, otherwise the Saliva in it's passage continually, would be apt to flow and press into the Wound, and hinder the Parts from uniting. If the stitches seem to give way before the Wound is internally agglutinated they are either to be removed, or the Conserver with pins and needles is to be made use of, keeping them close together with a strong thread twisted about them till the Wound is united.

To

To dispose the Wound to unite and agglutinate, proper Agglutinatives are to be employed, and the Patient is to use a thin Diet, that the Parts may not be too much pressed upon by swallowing gross Meat.

CHAP. VI.

Of Wounds of the Breast.

WOunds of the Breast are of two kinds, either such as penetrate or such as do not. If they penetrate we are to consider, whether they penetrate betwixt the Mediastinum, or whether into the Cavity of the Thorax; and what Parts internally are wounded. *Difference.*

If a Wound penetrate the Breast, and enter into the Cavity of the Thorax, it may be discovered by a Probe, or a searching Candle; or by laying a Feather upon the Wound or holding a Candle before it, which will be either blown away or extinguished, the Air making a Noise as it goes out upon Expiration. Sometimes it may be perceived by the Blood discharged either by the Wound or Mouth, or sometimes by both, the Lungs being oppressed by extravasated Blood, occasioning a Difficulty of Breathing, as in *Orthopnæa.* *The Diagnosticks.*

The Prognoſticks. If a Wound happen in any Part of the Thorax, it is dangerous eſpecially if a Nerve, Tendon, or any great Blood Veſſel be Wounded. For which Reaſon they are more Dangerous in the Back-part than in the Fore-part, and if the Lungs are Wounded, becauſe of the Conſtant Motion of the Lungs. If they happen near any great Veſſel they commonly terminate in a Phthiſis or Fiſtula. If the Blood extravaſated fall upon the Diaphragma, and corrupt, it is dangerous.

The Cure. If a Wound of the Breaſt be External it's cured as a Simple Wound. If the Wound penetrate, the Flux of Blood is to be checked, and the Extravaſated Blood diſcharged. The Extravaſated Blood is diſcharged either by the Wound or Expectoration, or as ſome Authors ſay, by *Urine.*

If a Tranſlation of Extravaſated Blood happen by *Urine Decoct. Capill Veneris polytrich. rad. Petroſelin. beton apii. fenic. aſparagi*, &c. Are proper Diureticks, which attenuating the matter, diſpoſe it to be tranſuded through the Pores of the *Pleara*, and imbibed by the Branches of the *Vena Azygos*, and in it's Circulation through the Kidneys, to be ſeparated in the Glands of the Kidneys and paſs off by *Urine* Ptiſans alſo with *ol. Sulp. Vitriol.* and Emulſions are proper to temper the Heat of the Blood, and by keeping it cool, prevent a further Extravaſation. The Veſſels are alſo to be emptyed by Bleeding; and the Ferment of the Humours checked by Anodine Draughts.

To promote a Diſcharge of the Matter by Expectoration, *Decoct. Pectorale Syr. Capill. Veneris. Jujub. Glycyrhiz. Oxymel.* &c. are convenient.

If the Wound be in ſuch a Part that it cannot be conveniently diſcharged by the Wound, then it is to be healed up as ſoon as poſſible. But if the Wound, be in ſuch a place, that the Extravaſated Blood may be diſcharged by it, it is to be kept open; but firſt the Flux of Blood is to be Stopped, to which purpoſe a ſoft Tent is to be made, with a thread tyed to it, to prevent it falling into the Cavity of the *Thorax*, this to be dipped in the Common Aſtringent powder of *Bol. Armen. Sang. Dracon. & Thur. cum album. ov.* with a Pledgit of the ſame and *Empl. de Bol.* over it; when the Flux of Blood is ſtopped, the Plegit may be armed with a digeſtive, and as ſoon as the Matter is diſcharged, the Orifice may be healed up with Agglutinatives, Incarnatives and *Epuloticks*.

CHAP. VII.

Of the Wounds of the Belly.

Difference. WOunds of the *Abdomen* differ as they penetrate or do not. If they penetrate the Inteſtines or the *Omentum* are apt to ſlip out. In Wounds of the *Abdomen* which penetrate ſometimes the Inteſtines or ſome of the Viſcera are alſo wounded.

The Diagnoſticks. If penetrating Wounds of the *Abdomen* are large, the Omentum or Inteſtines will fall out; if ſmall it may be diſcovered with a Probe. If any of the Viſcera be wounded it will appear from the ſymptoms, and the place where the wound is made; if the ſmall Guts be wounded, Chyle will flow out of the Wound; and ſo the Matter will differ according to the Nature and Contents of the wounded Part.

The Prognoſticks. Wounds which do not penetrate are without danger, thoſe which penetrate near the Plexus of the Nerves in the Middle of the Belly are worſt, being painful in ſtitching and difficult to cure.

The method of Cure. Wounds which do not penetrate are cured as other ſimple Wounds. If the Inteſtines or *Omentum* thruſt out, they are ſpeedily to be reduced; but if they are ſo inflated and puffed up, that they cannot be returned, they are to be fomented with red wine, or a diſcutient decoction *ex Summit. orig. puleg. fol. beton. ſalv. flor. cham. ſem.*

ſem. anethi, fenic. dulc. aniſ. &c. and if theſe Methods prove ineffectual, the Wound is to be enlarged by Inciſion, and then they are to be reduced.

When the Omentum is tainted what is to be done.

If the *Omentum* be tainted by the External Air, a Ligature is to be made, above the Corrupted Part, and that to be cut off, and then the Wound is to be ſtitched up, leaving the ends of the Ligature hanging out till it caſt off.

If the Wound be ſo ſmall, that neither the Inteſtines nor *Omentum* can ſlip out; nor the Parts within be hurt, the Wound is to be healed up and agglutinated; but if the Viſcera be wounded it will appear by the Symptoms, as the Inflation of the Belly, Collick, Vomitings, *&c.*

In Wounds of the Guts what is to be done.

If the ſmall Guts be wounded, it will appear by the Violent Pain, Vomiting of Choler, and the Chyle flowing out off the Wound. In this Caſe the whole Region of the Belly is to be embrocated with *ol. Maſtich. et Lumbricor.* and the Wound dreſſed with Sarcoticks, keeping it cloſe and warm with Compreſs and Bandage. But if the great Guts be wounded, and the Excrements diſcharge themſelves that way, the wound is to be laid open, and the Gut ſtitched with the Glovers Stitch, which being done, ſprinkle ſome of the Agglutinatives over the Wound and reduce the Gut, ſtitching up the *Abdomen*. The method of ſtitching the Abdomen is to take hold of, and leave the *Peritoneum* by turns every other ſtitch, that it may cement with the Fleſh, otherwiſe the *Peritoneum* not growing together, the Perſon will be ſubject to a Rupture.

Beeding is neceſſary. In theſe Caſes Bleeding is neceſſary, and is to be repeated as often as neceſſity requires. A ſtrict and moderate Diet is alſo to be obſerved, that the Inteſtines be neither crouded with the Quantity of Excrements nor prejudiced with their ill Qualities. After the ſecond Day, Clyſters of Chickin, or Veal broth may be adminiſtred, wherein Barly hath been boyled, adding Yolks of Eggs, *mel com.* or Sugar of Roſes, which will not only be ſoft and healing to the Parts, and preſerve the Natural Heat, but alſo prevent the Inteſtines from being crouded with too much Excrement. Internally, Vulnerary decoctions of *fol. plantag. Equiſet, pimpinel. piloſel. rad. conſolid.* &c. may be uſed, adding, *Conſ. roſ. rubr. cydon.* or *Decoctum Traumaticum.* as alſo *Electuaries* and *Bolus's* made of *Balſamicks* with Agglutinatives, as *Spec. diatragacanth.* &c. Which may not only aſſiſt and promote the healing of the Parts internally, but alſo by their Mucilaginous Qualities defend the Inteſtines from the Acrimony of Cholerick Humours. If the *Viſcera* are Wounded, the ſame Internals are proper, and the Wound is to be kept open to dreſs the Parts, and to diſcharge the matter that flows from them, as alſo Cataplaſms may be applyed *ex ferin. hord. fabar. fl. roſ. rubr. in hydromel. coct.* But of theſe more in the following Chapter of Gun-ſhot Wounds of the Belly.

Clyſters when proper.

Vulnerary Decoctions requiſite.

What is to be done when the Viſcera are Wounded.

CHAP.

CHAP. VIII.

Of Wounds of the Head.

WOunds of the Head are either Superficial, in the Skin or Fleſh, or affect the Bones, or when the the Membranes within the Skull are Cut or Torn. Wounds of the Skin and Fleſh are either Singly by themſelves or Compound with Fractures of the Skull, and Wounds of the Membranes alſo. Wounds of the Skull are divided into Six Sorts, *viz.* Fiſſures contra Fiſſures, Inciſions, Punctures, Contuſions and Fractures. But ſometimes violent Concuſſions of the Brain happen by a Blow or Fall, the Skin and Cranium remaining whole, attended with violent Accidents, not unlike thoſe of Fractures, and often more violent, the Veſſels within the Skull being broke and Blood Extravaſated, which produce *Stupores*, *Virtigines*, *Dileria*, &c. more Dangerous than Fractures themſelves, the Extravaſated Blood not only affecting the Membranes of the Brain, but preſſing upon the Origin of the Nerves If a Concuſſion happen without Fracture of the Veſſels, the Perſon is only Stunned, and ſoon recovers. Sometimes Contuſions are attended with Fiſſures of one or both Tables of the Skull. If the Fractures happen in the place where the blow was made, it is called *Fiſſuræ*; but if it happen on the Oppoſite Part, it is called *Contrafiſſure*. Great Contuſions without a Wound often are attended with Concuſſions; but thoſe are moſt properly

Difference.

Wounds of the Skull how many.

The Symptoms and Accidents of Concuſſions.

properly Fractures, where the Contuſion is attended with a Wound and a peice of the Skull is ſeparated from the reſt. The other ſort of Fractures are made by a ſharp Inſtrument that either Cuts or divides the Parts by a Point.

Signs. Simple Wounds of the Scalp eaſily appear to the ſight. If there be a Wound the Fracture will eaſily be perceived by feeling with ones finger, the inequalities of the Bones being evident to the Touch; and ſometimes when the Skin is not broke, if the Inequality and Depreſſion be conſiderable, the Tumour of the part being ſoft and poppling. If there be no Wound, a Fracture, Fiſſure or Concuſſion may be Gueſſed at by the Symptoms, and the manner and occaſion of thoſe Symptoms. If the Fracture be conſiderable, the Symptoms Conjunct, are Firſt a Singing of the Ears. Secondly, Falling after the Blow. Thirdly, Swooning for a time. Fourthly, Slumbering after the Fracture is made. Fifthly, Dazling of the Eyes. Sixthly, Giddineſs. Seventhly, Bleeding at the Noſe, Eyes, Ears and Mouth. Eighthly, Vomiting. Signs which follow after are. A Conſtant Pain of the Wounded Part, ſo that the Patient often offers to put his hand to the place. Vomiting Choler with a Fever, Convulſions, Palſie of one of the Legs and Arms, Raving, Faltring of the Speech, Deafneſs, Loſs of Memory, Dullneſs of the Underſtanding, *&c.*

Th. Prognoſticks. All Wounds of the Head though never ſo ſlight are Dangerous if neglected. Inciſed Wounds which reach no further than the Cranium are leaſt dangerous, and eaſily cured. The nearer they reach towards the Brain the more dangerous. Contuſions are all dangerous, producing commonly ill Symptoms. If upon Perforation of the Cranium, the loſs of ſenſe continue, it is dangerous, and foretells Blood Extravaſated under the

dura

dura Mater. In Gunſhot Wounds, if peices of the Skull be drove into the Brain, it is Mortal. If Wounds penetrate no further than the dura Mater they are Curable, if timely taken Care of.

Of Simple Contuſions of the Head.

IN the Cure of Simple Contuſions of the Scalp, which happen by a Blow or Fall. If they are attended with Pain, Inflammation and Tumour, the Hair is firſt to be ſhaved off, and Aſtringent Repellents made uſe of, to expel the Humours already Collected, and to prevent the Influx of more; to which end, the Tumour and Parts about it, may be Embrocated with *ol. Roſ. cum aceto*, or *ol. Myrt.* applying the following Cataplaſm. ℞. *farin. hord. fabar. ana* ℥vi *pulv. N. Cypreſs. Baluſt. Alum. Roch. ana* ℥i. *roſ. rub.* ℥vi. *ol. Roſ.* ℥iii. *alb. ov. N. ii acet. q. ſ. f. Cataplaſma.* which method of dreſſing is to be continued, till the Flux of Humours is ſtopped. Revulſion is made alſo by Bleeding, and Clyſters, as alſo anodyne Draughts, to prevent the heat and ferment of the Humours. When the Influx of Humours is reſtrained, the remaining part of the Humours may be diſperſed by Diſcutient Repellents; fomenting the Part with *fol. Beton. fl. anthos Shechad. cham. roſ. rub. bac. Myrt.* &c. boiled in red Wine, Embrocating the Parts afterwards with *ol. Roſ. & Cham.* But if the Tumour becomes hard and painful, and incline towards Suppuration; foment it whith *Emollient Diſcutients* as *Decoct. ſum. malv rad. Althæa, ſem. lini fenugrec.* applying a Cataplaſm of the ſame, with *farina hordei*, &c. If Extravaſated Blood occaſions an *Ecchymoſis*,

In Simple Contuſions of the Head what is firſt be done.

When the Tumour is hard and painful what is to be done.

Ecchymoſis, Stronger Diſcutients are requiſite, mixed with Repellents; that whilſt the Diſcutients attenuate the Blood, the Repellents may compreſs the Parts, and repel it into it's proper Veſſels again, as ℞. *farin. hord. fabar. ana* ℥iii. *fl. roſ. rubr. bac. myrt. ana* ℥i *ſum. Abſinth. fol. beton. fl. ſambuc. Cham. ana* ℥iii. *ſem. Cymin.* ℥i. *pulv. & coq. in vino Rubr. addend. mel. commun.* ℥ii. *ol. Roſ. & Cham. ana q. ſ. f. Cataplaſma*; but if this proves ineffectual, the Tumour is to be opened; leſt the Humours lying too long under the Skin, corrupt and foul the Cranium. When opened, it is to be digeſted and deterged and cicatrized; keeping the Parts cloſe, with Compreſs and Bandage, that they may be the more readily united underneath. If the Tumour be complicated with a Concuſſion, the Veſſels are to be emptied by plentiful Bleeding, repeated as neceſſity requires; by which means the Blood will flow leſs plentifully upon the Part affected, and the Symptoms be relieved, The Body is likewiſe to be kept ſoluble with Clyſters, and the Heat of the Blood allayed by cooling Emulſions and Juleps, Embrocating the Parts with *ol. Roſar. cum aceto & ol. Myrt.* with Aſtringent Repellent Cataplaſms. When the Symptoms are abated, apply *Emp. vigonis ad Contuſ.* or ℞. *furfur. Tritici.* ℥iii. *farin. lent.* ℥ii *fl. roſ. rub. bac. myrt. baluſt. ana* ℥i. *Calom. Aromat.* ℥i. ſs. *fl. Cham. melilot ana* ℥ ſs. *N. vi. omn. pulv. & coq. in Vin. auſter. q. ſ. ad conſiſt. Cataplaſm. addend. ol. cham. roſ. ana* ℥iii. If theſe Remedies avail not, the Part is to be opened, and the Skull perforated; to diſcharge what may be Extravaſated on the *Dura Mater*.

When the Tumour is complicated with Concuſſion.

Of Contuſion with a Wound.

IF a Contuſion be large, and Complicated with a Wound, and the Tumour likewiſe ſoft and pappy; and notwithſtanding the uſe of Aſtringents ſtill increaſe, it probably proceeds from a Fiſſure *in Cranio*. In which caſe Inciſion is to be made into the Tumour, and if the *Cranium* be neither bare, nor any depreſſion appear, the Wound is to be digeſted and healed: but if the Skull be depreſſed the Scalp is to be divided, and Perforation to be made for the Diſcharge of the Humours in the Head. *When a Tumour is complicated with a Wound.*

Of Wounds of the Head by Inciſion.

IF a Wound of the Head be made by a ſharp Inſtrument, though the Skull be hurt, yet if no ill Symptoms appear, bring the Lips of the Wound cloſe together, and having retained them ſo by Stitching, ſprinkle *pulv. Galeni* upon the Wound, applying *Emp. de Bol.* or ſome other defenſative, with Compreſs and Bandage, next dreſſing make uſe of *Linimentum Arcæi*, with the Defenſative and Bandage, and the Wound will ſoon heal and unite. *Of Inciſed Wounds of the Head.*

Of

Of Wounds of the Head with Loſs of Subſtance.

What is to be done in Wounds of the Head with loſs of Subſtance.

IF a Wound of the Head be made with loſs of ſubſtance, part of the ſcalp being torn away, digeſt with *Terebinth cum vitel. ov. et farin. hord.* then deterge with an Addition of *mel. Commun. rad. ireos. ſarcocol.* &c. and with an Addition of *Myrrh* and *Aloes* incarn; or you may incarn with *Linementum Arcæi*, If the Fleſh grows looſe and ſpungy, touch it with the Vitriol ſtone, which will harden the Fleſh, and diſpoſe it to cicatrize; to perfect which, a pledgit preſſed out of ſpirit of Wine or *aq. Calcis* will be ſufficient. In Wounds made by contuſion, though the Skull be a little bare, if the Orifice be kept open, with a ſmall Doſſil preſſed out of Spirit of Wine or *Tinct Myrrh*, and the Part defended from the Influx of Humours by a defenſative, the reſt of the Wound will incarn, being kept Cloſe with Compreſs and Bandage; but care muſt be taken, to leave room for the Diſcharge of the Matter, which, if retain'd would enlarge the Cavity betwixt the Skull and the Cranium, and keep them from uniting; but this may be prevented, by leaving a hole in the middle of the Compreſs.

In Wounds made by Contuſion.

What is to be done when the Skull is much bare.

If the Wound be ſo much contuſed as to caſt off a ſlough, and leave the Cranium much bare, though it be not foul, it will be requiſite, to raſpe it; otherwiſe the fleſh will not eaſily grow upon it, whilſt the Bone is ſmooth and ſlippery; beſides the external *Lamina* of the Bone are ſo cloſe, and interwoven with ſo few veſſels, that they are not able to caſt out a Callus; eſpecially ſince the Veſſels in the ſubſtance of the Bone remain

main entire, for as we have obſerved, where either new Fleſh, or a Callus is Generated, it riſes from the Extremities of the ſeparated Veſſels, which are promoted by an Appoſition of the parts of the Blood to the Extremities of the Veſſels; wherefore, till the Veſſels are broke by raſping, and there happens a ſolution of Continuity to be made, there can be no ſuch Appoſition of Parts, nor no new fleſh made. When the bone is raſped, dreſs it with *Linimentum Arcei* hot, and if that will not promote the growth of new fleſh, the native heat is to be rowzed with Doſſils preſſed out of ſpirit of Wine, ſimply or in which *pulv. rad. ireos*, *ariſtolochia*, &c. have been infuſed. If by a ſharp Inſtrument, the Skin be cut ſlanting off, or into the ſecond Table if there be no ſigns of Concuſſion, the wound is to be cleanſed, and dreſſed with Doſſils preſſed out of Spirit of Wine digeſting the Lips of the Wound, till the Bone exfoliates: where it is to be obſerved, that the bone is to be exfoliated from the Edges, for Medicines applyed to the middle will not exfoliate.

Why Raſping is neceſſary.

How the Bone is to be treſſed after Raſping.

Of Fiſſures and Fractures.

IF by a fall or blow the skull be fiſſured or fractured, the skin remaining whole the Scalp is preſently to be divided by making Inciſion either Angularly or Croſs, or of the form of the Letter T as the part requires, or will admit, avoiding the Sutures or the Temporal Muſcle. The Inciſion being made the divided Lips are to be filled up with Doſſils of Lint, preſſed out of red wine or oxycrate, applying a plaiſter of *Diachalcit* malaxed with *oyl* of *Roſes* over it. But

In Fiſſures or Fractures the Scalp to be divided. &c.

if

if the Flux of Blood be great, Doſſils preſſed out of *Oyl* of *Turpentine* will be convenient: The part being thus filled, it is to be bound up, till the flux of Blood is ſtopped, that the Blood may not diſturb the Chirurgeon in diſcovering the Fiſſure: next dreſſing, if the fiſſure be ſo ſmall as not eaſily to be diſcovered, the *Cranium* is to be wet with Ink, and when wiped off the Ink will remain in the Fiſſure and diſcover it. If the fiſſure is not diſcovered by this method, the following Emplaſter may be applyed, ℞ *Ceræ novæ et flavæ, Thuris Ladan. ana* ℥ii. *farin. fabar. Terebinth. acet. ana* ℥i. *M.* the next day the fiſſure will appear moiſt, where the Raſpatory is to be uſed the whole Length of the Fiſſure, defending the divided Lips of the Scalp, from external Air, by covering it with ſoft Linned Cloth; but if by the ſymtoms it appear, that the *dura Mater* is offended with extravaſated blood, or *ſanies*, ſufficient way is to be made, either by Raſpatories, or otherwiſe, for its diſcharge.

When the Fiſſure or Fracture are joyned together.

If there be a Fracture of the skull and a fiſſure, if the fiſſure is not ſufficient to releive the Dura Mater, then the Trepan is to be applyed, to give vent to the Serum or Blood, that offends the Dura Mater; but if the fiſſure be ſufficient to diſcharge the Serum or Blood, the uſe of the Trepan may be forborn. But if the fracture is attended with a depreſſion, the Trepan is to be applyed near the Depreſſed part, that the Humours may not only be diſcharged; but that the depreſſed part may be raiſed, by the help of the Levatory.

In

In applying the Trepan it muſt be obſerved, that it be done in ſuch a part, as may be moſt convenient for the diſcharge of the Matter, as in the moſt depending; and alſo ſo near the depreſſion, that the depreſſed Bone may be alſo conveniently raiſed. When the Trepan is placed, it is to be held firm with the left hand, and turned with the right; the Trepan being often taken out, and cleanſed of the foulneſs, by which means it will alſo be cooled. When you come near the ſecond Table the pin is to be taken out, leſt that penetrating before the Trepan, ſhould wound the Dura Mater. When it is near the ſecond Table it will eaſily be known, by the Blood appearing about the Inſtrument; When the Inſtrument hath paſſed the firſt Table, it is frequently to be taken out, to diſcover when the Bone is cut through; and care is to be taken not to preſs too hard upon it, leſt it ſlip at once thro' and wound the Dura Mater. When the bone is cut through, ſo that it but ſlightly adheres in ſome part, it is to be raiſed by the Levatory, & the Aſperities on the Lower Edge of the *Cranium* are to be taken off with the Lenticular.

Where the Trapan is to be apply'd and the manner of applying it.

When the Bone is taken out, and the Aſperities of the *Cranium* are taken away, the Dura Mater is to be cleanſed of the Blood that lyes upon it with a ſoft Sponge or ſome dry Lint, and then the Dura Mater is to be dreſſed with Lenients, which may ſecure the Membrane from Inflammation, and digeſt the Blood upon the Dura Mater, as *Ol.* or *Mel. Roſar cum Rezin abietis*; when the Blood is digeſted more of the *Rezin* and leſs of the *Oyl* may be added, which deterges, or the following may be uſed, which both deterge and incarn, ℞ *Terebinth. venet.* ℥i. *ol Roſ.* ℥iv. *mel. Roſ.* ℥iii. *Croci.* ℈i. *Granor. Hermes,* ℥ſs. *ſem. hyperic.* ℈li. *Vin. Hiſpan.* ℥ſii. *Coq. ad Conſump. Veni. Colat.*

lat. add Aloes. ℥i. *M.* The Dura Mater being dreſſed with theſe Medicines, the perforation is to be filled up with dry Lint, and the bone dreſſed either with dry Lint or *Linimentum Arcæi*; which may alſo be applyed inſtead of the former to the Dura Mater it ſelf; which I have ſeen very ſucceſsfully done by a moſt Ingenious Surgeon in her Majeſties Navy, Mr. *Will. Tovey*, with whom I had the happineſs to be acquainted, and ſee that Caſe not only very dexterouſly, but alſo ſucceſsfully handled; The perforation being thus taken Care off, the Lips of the Wound are to be dreſſed with digeſtives *ex Terebinth.* &c. with a plaiſter of *Diacalciteos* malaxed with *ol. Roſ.* over all. But here we are to note, that care muſt be taken not to continue the uſe of digeſtives too long, leſt they relax the Membrane, when the Dura Mater is ſufficiently digeſted, it may be deterged with Tinct. Myrrh, which will alſo promote the Generation of a Callus, and haſten the Exfoliation of the bone. If the Concreted Blood have lain long upon the Dura Mater, and tend to Putrefaction, *Mel. roſar.* and Spirit of of Wine are proper to be applyed to it or *mel. Ægyptiacum.*

What is to be done in Fractures made by Gunſhot.

When Fractures are made by Bullets or Slugs, not only the Hairy Scalp, but the Cranium alſo are driven in upon the *Dura Mater*; to relieve which, the Scalp is preſently to be divided, and the Scalp and Cranium to be both raiſed up together. If there happen a great Flux of Blood, the Blood is to be wiped away with a Spunge, and dreſſed as above directed. If there be not ſufficient Room for Diſcharge in the Fracture, Perforation is to be made in the moſt declining Part, and the Fracture Bones to be raiſed up, and ſuch as are looſe are to be taken out, dreſſing the others

others with proper Medicines; and if care be taken, that they be not over grown with Spungy Fleſh, they will Agglutinate.

What is to be done in great Concuſſion.

In great Concuſſions, though there be neither Fiſſure nor Fracture, it may be convenient to make perforation; and if the Symptoms abate not, it is probable, that there is an Extravaſation of Blood deeper, and then the dura mater is alſo to be perforated; and if the *Coma* and *Paralyſis* are not relieved by that, it is a ſign that the Brain is Sphacelated, and the Patient dyes Convulſive.

Of Wounds of the Dura Mater.

How Wounds of the Dura Mater are to be dreſſed.

WHen the Dura Mater is Wounded, it is to be dreſſed with ſuch Medicines as are Lenient and Digeſtive, and Anodyne; for ſince this Membrane is of ſuch exquiſite ſenſe, if ſharp biting Medicines are applyed, they would preſently exaſperate ill Symptoms; and inſtead of abating, promote the Diſorders of the Genus Nervoſum. Medicines proper in theſe Wounds are *ol. Roſar.* or *ol. Hyperic.* and *Maſtich.* mixed with *Reſin.* or they may be dreſſed with *ſuc. Calaminth.* Sprinkling the Membrane afterwards with *pulv. milii* which alſo incarns; but the uſe of Lenients are not to be continu'd too long, leſt relaxing the Part, the Fleſh grow looſe and ſpongy; but this in the beginning may be prevented by drying Medicines, which imbibe and dry up the Superfluous Moiſture, and hinder the quick Appoſition of Parts in incarning, as *pulv. cort granator. baluſt. roſ. rub. alum. uſt.* or the *Vitriol-Stone* may be applyed, if uſed moderately and in time. But if Medicines which are ſufficiently drying, and which preſerve alſo the Natural

temper of the Part be used in time; after digestion, the Flesh will rise solid and firm, and not be apt to thrust out a fungus. As Spirit of Wine applyed with Lint or mixed with *mel. rosarum*, or *Tinct. Myrrh.* or ℞. *Spr. vini.* ℥vi. *myrrh.* ℥ss. *aleos* ℥i. *Sarcocol. thuris ana* ℥ii.

But if the Dura Mater be so much affected as to change its Colour by the Humours flowing upon it, it may be deterged and dryed, and the superfluous moisture consumed by the following, ℞ *Terebinth. lot. in vin. alb.* ℥iii. *mel. rosar. Spir. Vin. ana* ℥i. *Myr. aloes, Sach. alb. ana* ℥ii. If these Wounds, by the Mater lying long upon the Dura Mater, tend to putrefaction ℞ *Mithridat.* ℥vi. *Theriac. venet.* ℥ii. *mel. Ægypt.* ℥i. *pulv. Scord. myrrh. ana* ℈i. *Spr. Vin. q. s.* When the Putrefaction is removed it may be dressed with the following ℞ *ol. Terebinth. Venet. mel. rosar. ana p. aq.* applyed warm.

The manner of dressing the Dura Mater.

In applying these Medicines to the Dura Mater, a Sindon is to be made use of, which is to be made of a peice of Silk or fine Linnen, answerable to the figure and size of the Perforation, which is to be placed under the Edges of the Cranium by the Lenticular, that the Edges of the Cranium may not hurt the Dura Mater; and a peice of thread or silk is to be fastened to the Sindon, that it may be pulled out as occasion offers. When the Dura Mater is dressed, the Perforation is to be filled with Dossils of Lint, to keep the Dura Mater from rising. When the Dura Mater incarns, the Flesh rising from it increases on each side till it unites, and then rising up joyns with the Callus that rises from the Perforation, which filling up the Cavity of the Cranium, at last hardens and grows firmer than the Bone it self.

Of

Of the Wounds of the Pia Mater and the Brain it self.

THe Pia Mater adheres so closely to the Brain, that it can scarce be hurt without the Brain being wounded likewise. When this Membrane is wounded it is commonly Mortal, the Membrane it self being not only full of Blood Vessels, and consequently apt to occasion great Extravasations of Blood, which falling about the Origin of the Nerves produce the worst of Symptoms, but likewise being of exquisite Sense, violent Symptoms must needs attend the Wounds of a part so sensible. Besides the Brain being exposed to the Influence of External Air, is chilled and disposed to Corruption, and works out of the Wound: If there be any Encouragement to use Applications, that you may come at the Wound, the shattered flesh and bones are to be moved out of the way; and the shattered Lips of the Scalp are to be divided, that their constant Gleet may not fall upon the Parts within. The Part wounded is to be dressed with *puiv. Galen, cum pil. Leporis, et alb. ovi.* to stop the Bleeding, and the rest of the Wound is to be dressed, as in fractures in *Cranio.* If the Bone be foul dress it with *Linimentum Arcæi,* or if that be too moist. *Tinct. Myrrh.* or ℞. *Spr. Vin.* ℥x. *Myrrh* ℥i. *aloes.* ℥i. ſs. *rad peuced. aristolochiæ. cort. thur.* ℥ſs. *pulv. et M. pro usu.* If the Brain be contained within its Membranes, and they digest and incarn, the rest of the Cure is to be compleated as in Fractures in *Cranio.* As for Wounds of the Brain a great many Medicines by several Authors have been proposed, but since such Wounds are commonly so Desperate, and Incurable, that they will not admit of time

Of Wounds of the Dura Mater.

How they are to be applyed.

for Applications; and since those Medicines when applyed prove ineffectual, I shall not here trouble the Reader with proposing such Medicines as the Desperateness of the Case will allow no Opportunity of making use of.

What Regimen is to be observ'd in Wounds of the Head

Having thus far considered the several kinds of Wounds the Head is subject to, whether they affect the Hairy Scalp, the Cranium or the Membranes contained within it, I shall here in General add, that in all Wounds of the Head, which are considerable, General Evacuations are to be made, whether the Body abound with Humours peccant in Quantity or Quality, and that, not only by bleeding, as the Strength of the Patient will admit, but also by Lenient Purges; as also Derivation and Repulsion are to be made by cupping or fontanels. The Indisposition of the Blood is likewise to be corrected by Internals, as Electuaries, Emulsions or Traumatick Decoctions as the Nature of the Case requires of *Beton. Artemisia, caryophill. primula veris, lil. Conval, salvia Hyperici. Sanicula. Veronica. N. Mosch.* &c. in Wine and Water or small Ale, as for Example. ℞. *sanic. beton. Veron. Artemis. ana* ℥i. *Conf. ros. rubr. caryophil.* ℥ss. *Tormentil.* ℥ii. *coq. in aq. font. & vin. Rhenan. ana* ℔ii. *Vase Calauso in B. M. Colatur. Cap.* ℥iv. *mane & sero.*

An

AN

APPENDIX

TO THE

Third PART

OF

Gunshot-WOUNDS, &c.

CHAP. I.

Of the Cure of Gunshot-Wounds, the Extraction of Bullets and the Dressing after Extraction.

GUnshot-Wounds are not only Solutions of Continuity, but are attended with Contusion, Attrition and Dilaceration; and frequently with Fractures and other Accidents, as Hæmorrhagy, Inflammation, Erysipelas, Gangrene and Sphacelus. *Accidents attending Gunshot-Wounds.*

Extraneous Bodies when to be extracted. In dressing of these Wounds it is to be observed, that if a Considerable Hæmorrhagy happens, it must be presently stopped, and rather by Actual Cautery than other Applications; but first the Extraneous Bodies are to be drawn out, whilst the Wound is Fresh and Warm, for after the first and second day, the Wound becomes so inflamed and tumified, that they cannot be extracted without great Pain.

Which way. Extraneous Bodies are to be Extracted, either the way they went in, or that they were inclined to go out. To take them out the way they went in, the Part must be placed as near as may be, in the same Posture the Wound was received in, and being found out by the help of a Probe may be taken out with a convenient Instrument. If it cannot be found in the Wound by the Assistance of a Probe, try to discover it by handling the Parts; or it perhaps may appear by the Pain of the Part where it is lodged; and then if it cannot be taken out the way it went in, Incision is to be made in order to take it out that way it may be most conveniently come at, but care must be taken to avoid Wounding the Tendons, Nerves, Veins or Arteries. And in extracting the Bullet, care must be likewise taken that the Instrument take not hold of a Nerve or a Tendon; to avoid which danger the Instrument is not to be opened till you take hold of the Bullet, without any of the Circumjacent Parts.

When

When the Bullet is taken out, or any other extraneous Bodies, The Wound is to be dressed with Lenient Digestives, to assuage the Pain of the Dilacerated Parts as *ol. Catellorum* as hot as the Part will bear it, *ol. l. l. Lumbricor.* or *Linimentum Arcæi* with any of the above mentioned Oyls, or *ol. Terebinth.* may be made use of, or ℞ *Terebinth. apt.* ℥iv. *Thur. Mastich. ana* ℥iii. *Myrrh.* ℥i. *ol. Aparici* ℥ii *ol. Lumbricor. Sambuc. ana* ℥iii. *M.* or ℞ *ol. oliv.* ℔i. *Terebinth.* ℔ss *gum. Elemi.* ℥ii. *Erugin. pulv.* ℥ii. These Medicines are to be applyed on proportionable Tents or Pledgits, embrocating the Part with *ol. Lumbricor. rosar. & acet.* which will discuss and repel the Humours already flowed to the Part, whilst the Influx of Humours is likewise prevented by a Defensative of *pulv. ros. rubr. bol. Armen terra sigillata sang. Dracon suc. plantag. Solan.* &c. which with *ol. rosar. Myrt.* &c. may be made up in the form of a Cerot; then apply a Compress wrung out of oxycrate or red Wine with moderate Bandage. The Humours are likewise to be prevented from flowing upon the Part by convenient Evacuations, and emptying of the Vessels, as by Bleeding, Lenient Purges or Clysters; and a moderate spare Diet is likewise to be observed, to cool the Blood and prevent Inflammation. The Disorder of the Spirits and hot ferment of the Blood may be also mitigated by Anodyne Draughts: And if Occasion requires it, the Spirits may be supported with moderate Cordials. If the Bone happen to be bare, dress it with *extract. scord.* dissolved in *mel. rosar.*

How the Part is to be dressed after Extraction.

The method of the Second dressing.

The Next dressing, the Wound ought to be stuped with Cloths wrung out of the following Decoction, or such like, which will give a breathing to the Part, and by preserving the Natural heat will promote digestion. ℞. *Summit. Hyper. scord. lent. absinth. ana. M. i. fl. ros. cham. mel. sambuc. ana M. i. ss. furfuris. P. i. coq. in aq. font. ad* ℔ii. *ss. Colat. add. vin. auster.* ℥i. *spr. Vin.* ℥vii. *M. f. Fomentatio.* If the Wound be very painful, the part may be fomented with Emollients of *Rad. Althæa. malv. fol. Verbasc. Cham. melilot, sem. lini. fenugræc.* &c. If the Wound be in good Condition, Digestives may be continued till the Ninth Day; then deterge with *precipitat.* and *Unguent Apostolor.* and incarn, adding *Aloes. Myrrh. Sarcocol. rad. Aristolochiæ. Gentian. Ireos.* &c. or *Tinct* of *Myrrh*, it self applyed with Dossils or Pledgits as occasion requires.

CHAP.

CHAP. II.

Of the Accidents that attend Gunshot-Wounds.

GUn-shot Wounds in the Beginning are subject to several Accidents, as Pain and Inflammation, Erysipelas, Gangrene, Hæmorrhaggy, Palsie and Convulsions.

How Pain inflammation or an Erysipelas are to be prevented.

Inflammation and Erysipelas may be prevented by the timely use of such Medicines as resist the Influx of Humours; also by due Evacuations by Bleeding and Purging. If Pain, Inflammation or an *Erysipulas* affect the Part, the first are to be relieved by Emollient Anodyes; and what Method is proper to remove the Erysipelas will appear, from what hath been said of that Disease in the first part of Tumours.

How a Gangrene is to be relieved.

If either through the Decay of the Natural Heat, or by the false Applications of Medicines, the Natural Temper of the part is destroyed; or by the Afflux of ill disposed and depraved Humours, the flesh in a Wound begins to look livid, and discharges a thin Gleet, instead of digesting, and begin, to mortify; the Lips of the Wound are to be scarifyed so deep, as to come to the sound flesh; which scarifications are to be permitted to bleed freely, that vent may be given to the peccant humours choaked up in the Vessels about the Wound; and also, that Medicines applyed may have their true effects. Then the part is

is to be fomented with a *Lixivium* in which *scord. Absinth.* and *Centaur.* &c. have been boyled; and having washed the Scarifications with the same, dress them with *Ægyptiac.* and *Theriac. venet.* dissolved in *Vinegar*, adding calcined *Vitriol*; when the Mortification is stopped, the Eschar is to be separated by Digestives; and then deterterged incarned and cicatrized.

Hæmorrhagies what is to be done. If a violent flux of Blood happen, and will not be stopped by the Use of Astringents, or *ol. Terebinth.* with Compress and Bandage, or with Defensatives; then the Vessel is to be shrunk by an Actual Cautery, or secured by deligation.

How Sinuosity is to be prevented. If Gun shot Wounds are attended with a large Afflux of Humours; and they insinuate betwixt the Interstices of the Muscles, where Bandage cannot be made; to keep the Parts close and able to resist these Humours from extending a sinus; or the Bullet yet remain within the Wound, and cannot easily be got out; to prevent sinuosity, the Orifice is to be enlarged. And if notwithstanding, neither by altering the Position of the Part, nor by Compress and Bandage, nor hollow Tents the Matter can be discharged, a declining Orifice is to be made by Caustick, or Incision; but if there be hopes of discharging the Matter by Compress and Bandage, the Compresses may be wrung out of an Infusion *fl. ros. rubr. myrt. cort. granat. balust. N. Cypress. Sumach.* &c. and Injections used to promote the uniting of the Parts, with the following *viz. Myrrh, aloes, sarcocol. rad. ireos. Aristolochia, spr. Vin. mel. ros.* or *Tinct. Myrrh.* If Convulsions happen upon a Wound it is Mortal; but a Palsie may be occasioned by the breach of a particular branch of a Nerve, which only Impairs the part that Nerve supplyed with spirits, and so produce a Paralysis of that Part.

CHAP.

CHAP. III.

Of Gunshot-Wounds with Fracture.

If a Wound be complicated with a Fracture, the Fracture may be discovered, First, by comparing the sound Part with the other, which will differ. Secondly, a Cavity may be felt both above and below the Fracture. Thirdly, by the Attrition of the hard Parts, you may perceive a crackling. Fourthly, there will be violent Pain, and and a pricking of the Flesh, either with the Extremities, or some Splinters of the Bone. Fifthly, by the impotency of the Part. Sixthly, It may be supposed from the violence of the Antecedent Cause. And Lastly, from the unevenness and inequality of the Bones. *Signs of Fractures complicated with a Wound.*

The Bones are sooner united in Sanguine than Cholerick Constitutions, the Cholerick Serum fretting and obstructing the more ready apposition of the Parts of the Blood. Again Fractures are less Dangerous in the middle of a Joynt, then when they happen near the Joynt, where they are harder to be reduced, and more difficultly retained in their proper places. *The Prognosticks.*

Those Fractures are most Dangerous, which are deepest in the Flesh; especially when there happens to be a Comminution, and the Nerves and Tendons are pricked and torn, occasioning violent Pain, Inflammation, Convulsions and Death; except relieved by extracting those Splinters, or by taking off the Member.

The

What is to be done when a Fracture is complicated with a Dislocation.

In order to the Cure of Gunshot-Wounds with Fracture the Wound is first to be cleansed of extraneous Bodies. If the Fracture happen near the Joynt, the violence of the Blow often Occasions a Dislocation, which is to be reduced before you meddle with the Fracture; and if the Parts are so torn that there is no hopes of uniting again, the Musculous flesh is to be divided and smoothed, and then hawled up, whilst the end of the Bone is sawed off.

If a fracture be complicate how it is to be reduced.

But when a Fracture happens to be made with a Wound, and no Dislocation; first the Fracture is to be reduced, and then the Wound is to be Considered. In reducing the Fracture, Extention is to be made, which is to be gentle and made with Caution, lest the lacerated and bruised Parts be too much inflamed and rendered Painful, by too violent and rough handling. And first it will be requisite, before extention, to remove all extraneous Bodies, and if the Wound be not large enough, it is to be made so by incision, that the extraneous Bodies may be more easily taken out of the Way, by which means, the extention will be more easily made, and not be obstructed by them in reducing the Bones.

How the Bone is to be dressed.

When the Fracture is reduced, if the Bone be bare, it must be dressed with dry Lint, first sprinkling it with the powder of *Myrrh. aloes. thus. rad. Ireos*, &c. dressing the Parts about it with warm Digestives, then apply *emplast. de Bol.* about the Fractured Part, and over the Wound a stupe or double Cloth wrung out of a Decoction of *fl. ros. rub. balust. sumach. bac. myrtil. sum. Absinth*, &c. in red Wine, which will keep the Lips of the Wound smooth aud even.

The

The Wound being thus dressed, over the Compress you are to bring the Ninetailed Bandage, which is to be made of a soft peice of Cloth three fould, and of such a Breadth as may encompass both the Lips of the Wound and the Fractured Parts, and long enough to come once about the Fracture. This Cloth is to be divided by three Slits, reaching from the ends to the middle, which is to be placed under the Fracture opposite to the Wound; and the ends are to be brought one over another, and over the Compress, which is placed over the Wound. This Bandage is to be so placed, that the middle fould being opened, may leave room sufficient for dressing the Wound. *What Bandage is to be made.*

When the Pain and Inflammation are over, which is about the Seventh day, and the Flux of Humours is restrained, *Splenia* may be applped, made of Linnen Cloth four double, and cut like the *Ferulæ*: over these Splenia, the ninetailed Bandage is to be made, and over that, the part may be supported with peices of pastboard, or thin *Lamina* of Tin, which are to be so placed, that they may support the Fractured parts, and leave room for the dressing of the Wound; these *Lamina* or peices of pastboard are to be retained and kept fast, by three Ligatures, which are to be made fast, in such places as may be most easy to the Patient. *of Splenia and Ferulæ.*

The Fracture and Wound being both thus taken care of, the Part is to be placed in a due Position; so that it may lye soft, and equal, and that it may be neither hurt, which would occasion Pain and Inflammation; nor distorted, which would alter the Natural shape and disfigure the Part. The Part is likewise to be raised a little, that it may not be subject to the Influx of Humours. *The Part to be put in a convenient Posture.*

When

The Bandage when to be loosed. When the Wound is digested, and the Accidents of Pain and Inflammation removed, which is about the Seventh or Ninth day, the Bandage is to be loosened and the Restoratives taken off, applying such Medicines as may strengthen the Part and promote the Generation of a Callus, as *Emplast. Catagmaticum*, or ℞ *Emp. Stict. Paracels. p. ii. Emp. diachalcit. p. j. Misc.* over this a Compress is to be placed, dipt in red Wine as above directed; then make use of the Ninetailed Bandage, and over it, *Lamina* of Tin or Copper, or the *Splenia* of double Cloth dipped in whites of *Eggs*.

The Wounds being sufficiently digested, deterge with *Mund. Paracels.* or ℞ *Vinc. pervinc. peti, persicariæ beton ana M. j. Flor. hyperic. Verbasc. ana P. j. Rad. Aristolochiæ utriusq.* ℥ss. *thuris, Myrrh. Sarcocol. ireos ana* ℥ii. *coq. in Vino alb. addend Colatur. mellis rosacei q. s.* which will both deterge and incarn: or may be made into an *Unguent.* by an Addition of *Terebinth. cer. & ol. Hyperici.*

If a Caries happen in the Bone, dress it with a Decoction of *Scord. Vinc. pervinc. peucedanum, gentian. rad. Irid.* and *Myrrh.* in *Claret* adding Spirit of Wine. Or *Extract. Scord.* or it may be dressed with *Tinct.* of *Myrrh.* &c.

Vulnerary Drinks convenient. In all these Cases vulnerary drinks are convenient, not only to alter the temper of the Humours, which affect the Wound, but also, to promote the Generation of a Callus. As ℞ *Aristoloch. rotund.* ℥ii. *fol. serpentar. consolid. utriusq; geranii Columb. Saniculæ ana M. j. in* ℔viii. *Vin. coct.* of which ℥iii. may be given twice a day with a drachm of *osteocol.* How these Medicines are serviceable in respect of the Wound, or promote a Callus I have already shewn elsewhere.

CHAP.

CHAP. IV.

Of Gunshot-Wounds of the Joynts.

WOunds of the Joynts are not only dangerous, and difficult to cure, but very painful; The Tendons, Membranes and Nerves, which are about them, being of exquisite sense, and if the Joynt be great, they are subject to very violent Symptoms and Accidents, as Pain, Inflammation, *Delirium*, Convulsions, Gangrene; and are often Mortal. *The Prognosticks.*

In the Cure of these Wounds, the Extraneous Bodies are presently to be extracted; and if the Wound be not large enough it is to be enlarged, taking Care not to wound any great Vessels, which may occasion an Effusion of Blood. *What is to be done in the Cure.*

Extraneous Bodies being extracted, the Wound is to be dressed with some of the following Digestives hot, upon Dossils or Pledgits. ℞. *Terebinth. lot. in Spirit. Vini.* ℥iiii. *Thur Myrrh. Mastich. ana* ℥i. *ol. hyyerici.* ℥iii. *Vitel. ov. No.* ii. *Croci.* ℈ii. *M.* or ℞. *ol. Terebinth.* ℥i. *ol. hyper. cum Gum.* ℥ii. *Euphorb. pulv* ℥i. *M.* drop this warm into the Wound, applying the digestive over it; then embrocate the parts with *ol. lumbricor, & hyperici*, applying the following Cataplasm over all ℞ *farin. hord fabar. ana* ℔i. *fl. cham. melilot. fl. ros. rub. scord. Absinth. pulv. ana* ℥vi. *decoct. in Brodio, or Oxymel.* adding *ol. ros. et cham.* this by Discussing and Lenient Astringency will disperse what Humours might settle about the part, and mitigate the Pain. *Digestives.*

The

Detergents. The Wound digested deterge with the following ℞. *Farin. orob.* ℥i. ſs. *Thur. rad ireos, ana* ℥vi. *ſuc. apii.* ℥iii. *mel. com. et Terebinth. ana* ℥ii. *M.* when deterged the following may be made uſe of to incarn ℞ *ſum. hyperic. equiſet. plantag. be-*
To incarn. *ton. ana P.* j. *Rad conſolid. Maj. tormentil.* ℥iii. *ſev. hercin.* ℥iiii. *Lumbric. terreſt. lot. ol. Maſtich. ana* ℥ii. *Vin. odorif. q ſ. Coq. ad Conſumpt. Vini, poſtea colentur forti expreſſione, deinde add. rezin. pini.* ℥i. *Thuris. Maſtich. Myrrh, aloes, ana* ℥ſs. *Ceræ* ℥iv. *M. ſ.* Unguent. If the Bone be bare care muſt be taken not to foul it, by greaſy Applicat ons. If the Symptoms be violent and are not releived by Anodynes *&c.* Care is to be taken to make Amputation, before the Spirits are too much exhauſted.

CHAP. V.

Of Gunſhot-Wounds of the Belly.

Difference. GUn-ſhot Wounds of the Belly are either penetrating or not. Thoſe which are not penetrating are often Superficial, the Skin being only ſcratched and a little diſcoulered; yet ſince theſe are ſubject to Tumour, the Part under being a little bruiſed, it will be convenient to embrocate with Lenients as *ol. Cham. et Roſar.* and apply *Emplaſt. de Bol.* to prevent Fluxion and Tumour. But when theſe Wounds penetrate the Skin, they require

quire the same Medicines as simple Gunshot-Wounds; only these parts are more subject to Fluxion, being lax and in constant Motion; which makes Bandage and other external Applications less effectual.

When Wounds penetrate the Peritonæum, though no internal part be really wounded; yet the Contusion is so great, that it commonly occasions violent Colicks, and a difficulty of Breathing. *The Diagnostick.*

But when the Internal *Viscera* are hurt, the Situation of Part, and other Symptoms proper to each part, will make it evident. If the Liver be wounded, an Effusion of gross Blood will follow. If the *Vena Cava* or *Porta* be wounded, the right *Hypocondrium* will be oppressed; and if the Artery be hurt, the Blood will be florid and flow out violently, and the Patient soon dyes. If the Stomach be wounded, the Person will be troubled with *Singultus*, *Nausea* and Vomiting, and Cold Sweats, the Contents of the Stomach with the Chyle coming out at the Wound. If the small Guts are wounded, the Chyle will come out at the Wound, and if the Great Guts are Damnifyed, it will appear by the smell of the Excrements. If the Spleen be wounded, the Blood that flows out will be black, and the Person affected with a Tension and Difficulty of Breathing. If the Kidneys are wounded, the Pain is extended to the Groin and Testicles, with a difficulty of Urine, and that which is discharged is either Bloody or altogether Blood. If the Ureters be wounded, the Urine comes out at the Wound. If the Bladder is hurt, there is a Tension of that part of the Belly, great pain in the Groin, and the Urine is discharged at the Wound, and the Stomach is affected by Consent.

The Prognosticks. Wounds of the External Parts of the Belly are dangerous, especially if the *Linea alba* be wounded. But when they penetrate the *Peritonæum* they seldom recover.

Intentions of Cure. In order to the Cure, first the Bullet is to be extracted, and other extraneous Bodies, lest they offend the *Viscera*, or occasion greater Putrefaction; and the Intestines and *Omentum* are to be reduced, lest they corrupt or inflate, by being exposed to the External Air.

This being done, Digestion is to be promoted, and the Inflammation releived.

To reduce the Intestines or Omentum. If the Intestines and *Omentum* are not easily reduced, they are to be fomented with warm Discutients; and if the Wound is not large enough, it is to be enlarged by Incision, If the *Omentum* be tainted, the Corrupted Part is to be separated by Making a Ligature, and cutting it off, leaving the ends out, till they cast off by Digestion.

What is to be done to stop an Hæmorrhagy. If there be a Hæmorrhagy, you are to endeavour to stop it by Astringent Injections. as, *aq. Vrt. Sperm. Ranar. plantag.* or *Vin. rubr. cum syr. de Ros. sic. addend. pulv. bol. armen. terra siquillat. sang. dracon. aloe. Thur.* &c. Astringent powders may also be applyed, mixed with a new laid Egg, upon a Tent made fast by a thread, that it may not fall into the Cavity of the *Abdomen*, when the Hæmorrhagy is stopped, digestives are to be made use of.

What is to be done in Wounds of the Stomach and Guts. In Wounds of the Stomach and Guts, the following Medicines are recommended. ℞. *fol. piloscl. plantag. rad. tormentil. consolid. Maj. flor. Hyperici. coq in Vin. Rubr. et Colat. add. Mann. Thur. ol. Mastich, resin. abiet. Terebinth. Cypriæ, Croci et Verm. terrest ana q. s. f. Sarcet.* The external Wound is to be dressed with Digestives, and

and the Natural Heat of the Parts preserved, with Fomentations, Embrocations and Cataplasms.

In Wounds of the Kidneys Astringents are also proper, and such as prevent Putrefaction, as *rad. Consolid. irid. Aristolochia, rot. myrt. caud. equin. plantag. balust. in aq. Chalyb coct. addend. Vin. rubrum. et syr. de Ros. siccis.* After the Injection dress the Wound with a digestive *ex Terebinth. cum integ. ov. terra sigillat. Thur. et mastich*, and embrocate the Parts with *ol. Hyperici*, with *emplast. Diacalcit.* malaxed with *Oyl* of *Roses* over all. *In Wounds of the Kidneys.*

If the Liver or Spleen be wounded the flux of Blood will be considerable, to obviate which ℞. *Plantag. pentaphil. polygon. millefol. myrt. ros. rubr. in aq. Chalyb. coct. addend. syr. de Rosis siccis.* which may be used as an Injection, applying *Sang. Dracon. bol. Armen. pulv. Thuris.* &c. made up in the form of a *Liniment.* with the Juices of some of the abovementioned Herbs, upon Pledgits or Tents.

CHAP. VI.

Of Gunshot-Wounds in the Thorax.

Difference. WOunds of the Thorax are either Superficial, of the External Parts, or penetrate through the Ribs and *Pleura*, and frequently Wound the Principal *Viscera*. If the Wounds do not penetrate into the Cavity of the *Thorax*, they are cured as Gun-shot Wounds in other Fleshly Parts. If the Ribs are broke they are to be treated as Wounds with Fracture, the Splinters of Bones which might offend the adjacent Parts being taken out.

The Diagnosticks. If the Wound penetrate into the Cavity of the Thorax, the Air upon Respiration will make a Noise when it goes out: and the Blood will flow out either by the Wound or Mouth or both; but if it be retained and fall down upon the *Diaphragma*, it will appear by the Difficulty of Breathing, and other Symptoms. If the Lungs are Wounded, it will be attended with a Cough, difficulty of breathing, and frequent sighing, the Blood flowing out of the Wound, or discharged by Coughing, the Person desiring to lye upon the Wound. If the Heart be Wounded, the effusion of Blood is violent and hot, the Spirits presently sink, and cold Sweats are the forerunners of a sudden Death. When the *Diaphragma* is hurt, the Person is affected with a Difficulty of Breathing, a hoarseness, and Pain about the short Ribs; the

the Spine is also affected, and the *Diaphragma* drawn up. If the great Artery be hurt, the Effusion of Blood is impetuous, and flows from the left side, if the *Vena Cava* be Wounded, it flows from the right side. If the Spinal Marrow be hurt, a Palsie of the whole follows below the Wound.

Most of these Wounds are Mortal; and tho' in some, life may be prolonged, yet seldom any recovers. *The Frogmorticks.*

In order to the Cure of these Wounds, the Extraneous Bodies are first to be extracted, and then the Wound is to be dressed with Astringents to restrain the Bleeding. As ℞ *bol. armen. C. C. ust. ol. ros. & Sambuc. farin. volat. cum ov. integr. M.* Which may be applyed upon a Tent, and a Compress spread with the same over it. The Vessels are also to be emptyed by Venesection, which is to be repeated as often as convenient. Injections may likewise be made use of, as a Decoction of *fol. plantag. ulm. urticæ, vinc. pervinc. ros. rub. fol. myrt. in aq. germ. querc.* with *Bol. Armen.* and *Syr. de Symphyt*, which are convenient in these sort of Wounds, the Orifice being sufficient to discharge them again; whereas in Wounds by Puncture, Injections are prejudicial, the Wound being too small to give vent to the Medicine injected. But besides Externals and Injections, internally *Traumatick Decoctions* are convenient, and Electuaries made of Astringent powders, and such Gummy and Resinuous Medicines as thicken the Blood and Serum, and allay that Extraordinary heat which keeps the Blood thin. *Intentions of Cure.*

The Effusion of Blood being stopped, the Wound is to be dressed with Digestives, as ℞ *Terebinth. lot. in Decoct. hord.* ℥ii. *pulv. Thur. Myrrh ana* ℈ii. *sem. fenugræc. pulv.* ℥i. *ol. hyperici. q. s.* applyed upon a short Tent, with a pledgit of the same over it, embrocating the Parts about it with a mixture of *ol. amygd. dulc. Lumbricor. & Unguent. de Althæa*, which is both Emollient, Anodyne and Discutient. This being done apply *Emp. Diachil. Simp.* malaxed with the same mixture over all. The Wound being digested, deterge and incarn, which may be done either by Injection, or by a proper *Unguent.* If Injections are proper a Decoction of *Piloſel.* with *mel. rosarum* may be used, or ℞ *fol. piloſel. Caud. equin. Plantag. tormentil. Consolid. Rad. Aristoloch. rot. rad. irid. & sarcocol. coq. in aq. font. addend. mel. Ros. q. s.* Or the following *Unguent.* may be used, with which the Wounds externally may be dressed also, ℞ *Terebinth* ℥ii. *farin. hord. cribat* ℥i. *Thuris sarcocol. rad. irid. ana* ℥iii. *mel. rosar.* ℥iiii. *M.* If there be any Sloughs externally, which may discharge a troublesome Gleet offensive to the Parts within, they are to be cut off before the Wound is digested.

When the Flux of Blood is stopped and the Wound begins to digest, instead of Traumatick Decoctions, *Decoctum Pectorale* may be given, or Cows Milk sweeten'd with *Sugar of Roses*: their Diet is also to be Slender and Incrassating; yet it ought to consist of such things as afford good Nourishment; and make soft and mild Chyle, which may not offend the Parts within, either by it's Saltness or Acrimony; nor increase the heat and ferment of the Humours within. The Body is likewise to be kept open with Clysters, and the heat of the Blood tempered with proper Emulsions, *&c.*

CHAP.

CHAP. VII.

Of Burns with Gunpowder.

WHen any Part of the Body happens to be burnt the Method of Cure is much the same, only as it differs according to the degree and violence of the Cause. If they are burnt with Gunpowder, the powder is to be first picked out, lest it stain the skin, and leave the marks behind, which afterwards cannot be removed without taking off the Skin. *The first Intention.*

If the Part be burned superficially, the Cuticula will be raised in Blisters, the Texture of the Cuticle being destroyed by the fire, whilst the Heat and Inflammation of the Part rarifyes the Blood in the Cutis, and promotes the Separation of the Serum in the Cutaneous Glands, which being separated faster than Naturally, and not separated through the pores of the Cuticula as it ought to be, it is heaped up betwixt the *Cutis* and *Cuticula* and separates the latter. If the Burn penetrates deeper, it destroys the Tacture of the Skin, and forms an Eschar, which by being more violent is burnt into a hard crust. *The Reason of blisters.*

In

The method of Cure. In the Cure of these Burns, either Cooling and Refrigerant Medicines are used which take off the heat of the Part, or warm Applications which ease the Pain by rarifying the Humours and opening the pores of the Cutis and Cuticle. Refrigerants which are also Anodyne, and assuage the Pain by dulling the sence of the Nervous *Papillæ* are *aq. solan. plantag. hyosciam. lac butyrum.* Refrigerants which cool the Parts, are *Unguent. album nutritum, populeon, rosatum,* &c. which are to be applyed warm, lest they should obstruct the pores, and prevent the discharge of the hot Inflamed Serum. When the Heat is off and the Eschar separated, the Ulcerated Parts are to be digested and cicatrized.

Why warm Medicines relieve Burns. Hot Medicines relieve and ease the Pain by opening the pores of the Skin, and raryfying the Humours by which they are more inclined to go off by Transpiration, whereas when they are heaped up and grow more acrid by being retained, they corrode and ulcerate the Parts, and violently affect the Nervous *Papillæ* or Sensible Membranes and are more Painful. To this Intent a red hot Iron may be held before the Part, or by applying an Onion beaten together with Salt, but these Methods are not to be used when the Cuticle is separated, and it's pores destroyed, since then they cannot give vent to the rarified Serum; but would rather increase the Pain and Inflammation; nor are these Methods to be used when the skin is off, since then they exasperate the Pain, by increasing the Heat of the Part, and affecting the Nervous Parts. Other things which promote Transpiration by their Discutient Qualities, and also ease the Pain by their Anodyne Parts, are *Fimus equinus* fryed *in ol. Nucum, sambucus, ebulus in ol. Cost. Emp. de Mucilaginibus, or Unguent. de Althæa.*

If

If by these Applications the skin is not prevented from rising in Blisters, the Blisters are to be cut; lest the Humours retained acquire a farther degree of Acrimony, and Ulcerate the Parts. If the Parts be Ulcerated, or if an Eschar be made, or the skin burnt to a Crust, the Separation of the Eschar is to be made by Emollients, and when separated, the Exulcerations are to be digested incarned and cicatrized.

If these burns be considerable or the Exulcerations large; to prevent Inflammation and Fever, Bleeding is requisite, and also Purging, especially if the Constitution be ill, and abound with *Cacochymia.* The Diet is also to be regulated according to the Degrees of the Symptoms, and the Constitution of the Patient.

CHAP. VIII.

Of a Gangrene and Sphacelus.

SOmetimes Gunshot-Wounds as well as Wounds with great Contusion terminate in a Gangrene and Sphacelus; Gangrene is a tendency to Mortification, and Sphacelus a perfect Mortification. Mortifications differ from one another as they are more or less. *Definition and Difference.*

A Gangrene or Sphacelus may be occasioned by any thing that destroys the Natural Heat and Texture of the Part. And First, a Gangrene may be occasioned by too hard Bandage, which obstructs *The Causes.*

obſtructs the Circulation of the Blood and Spirits, and conſequently the Humours Stagnate and Corrupt and Putrify the Parts. Secondly, A Gangrene may be occaſioned for want of Extracting of Extraneous Bodies in due time, which occaſion Pain and Inflammation, and conſequently Tumour and Fluxion, ſo that at the laſt the Veſſels are ſo crouded, that they obſtruct one another, and the Humours in the obſtructed Veſſels coagulate and corrupt, for want of a diſcharge of the ſuperfluous Quantity into the Wound; for Firſt, the Extremities of the Veſſels in the Wound being obſtructed by the Contuſion, the Veſſels having no vent into the Wound, they tumify, which is called Fluxion, and then the Veſſels tumifyed occaſion Pain, and Inflammation; but how theſe Symptoms are occaſion'd I have elſewhere more fully explained in the firſt Part. But to proceed, Thirdly, A Gangrene may be occaſioned by extream Cold, by which the Blood and Spirits are at once coagulated, and corrupt and putrify the Parts. Fourthly, A Gangrene may be promoted by a Natural decay of Heat, by which means nature is not able to ſeparate and caſt off the Corrupted Parts, but the putrifyed Parts ſtill corrupt and deſtroy the ſound ones. Fifthly, A Gangrene may be occaſioned by an undue Application of Medicines, which if they be too Cold extinguiſh the Natural Heat, ſo that inſtead of the Extremities of the Veſſels being cleared of that Matter or Contuſed Fleſh, which obſtructs the Veſſels, and hinders their diſcharge, they depreſs the Natural Heat and increaſe the Obſtruction, which choaks up the Veſſels, makes Tumour, and conſequently Coagulation, Corruption and Putrifaction. If the Medicines are too hot, they increaſe the Imtemperies of the Part, and inſtead of correcting their

ill

ill Qualities, they encreaſe and add to their Acrimony, and render them more corroding; and conſequently they fret and deſtroy the Parts. Sixthly, A Gangrene may depend upon the ill Craſis and Diſpoſition of the Humours, being depraved, either by the Hereditary ill Qualities of the Humours or by an Habitual Indiſpoſition, acquired by the faults of Concoction and the ill depraved Ferments of the Parts; how the Humours may be thus depraved we have elſewhere explained in the Firſt Part of this Book in the Chapters of *Scirrhus* and *Cancer*, and in the Second of *Phagedæna* and *Noma*; where we have ſhewn, that the Corroſive Particles that occaſion a Gangrene differ only in degree from theſe Corroſive Ulcers, they frequently terminating in a Mortification. The Nature of a Mortification likewiſe may further be illuſtrated by what we have ſaid of a *Carbuncle* and it's Cauſes. So that we ſhall not repeat what we have there ſaid, but only here be content to repreſent, that a *Gangrene* and *Sphacelus* proceed from a Humour, which by it's Corroſive and Acrimonious Parts deſtroys the Texture of the Humours, and the Contexture of the Veſſels, which may be produced any of the above mentioned ways.

The ſigns of a Gangrene are a Pale Livid Colour in the Skin, and a Diminution of the Tumour, Bliſters alſo preſently ſucceed, the Native heat being decayed, and the ſerum conſequently condenſing, and becoming too thick to tranſpire through the Cuticula; ſoon after the Skin turns black, the Blood alſo condenſing and coagulating in the Cutis. As for the Pale, Livid Colour, and the Diminution of the Tumour, they are occaſioned, by the decay of the Natural Heat of the Part, the Parts growing cold and flaccid, and not apt to be diſtended and puffed up with hot *The Diagnoſticks.*

hot fermenting Blood; ſo that the Symptoms of Fluxion diſappear, and the Veſſels ſubſide as the Humours loſe their heat and fermenting Quality. In Wounds, for the ſame Reaſon, the Lips ſink and are flaccid, as the Pulſe, and ſenſe of the Part both decay.

In a Sphacelus the Part hath wholly loſt both its Senſe and Circulation, and the Humours coagulate, corrupt and ſtink. If a Gangrene proceed from Tumour Pain and Inflammation, thoſe Symptoms preceding will make it appear, though the Tumour ſubſide when the part begins to Gangrene. If it proceeds from Cold the Part is firſt benummed, the Patient being ſeized with Horror and Rigor, and a pricking pain in the Part; the part hath alſo a redneſs, which when it mortifyes turns black, the Blood before only Stagnating, but now Coagulated. If it proceed from too ſtrict Bandage, the part is flaccid and Inſenſible, the Circulation both of the Blood and Spirits being intercepted. If it be occaſioned through a Natural decay of the Body, the part is emaciated, and flaccid, for want of Blood and Spirits; and the Extreme Parts are moſt ſubject to it, where the Blood and Spirits leaſt ſhew their Vigour.

The Prognoſticks. All Gangrenes are dangerous; but thoſe leaſt, which proceed from Inflammation in the External Parts, and theſe are more or leſs ſo, according to the difference of the Conſtitution, and the Progreſs of the Mortification. In Gun-ſhot Wounds, where they are deep or near the Joynts they are proportionably dangerous. In Fat and Hydropical Bodies, which abound with a great Quantity of ſuperfluous Humours, they are moſt dangerous, the Temper of the parts and Native heat being ſoon deſtroyed. But when they depend upon an Ill depraved indiſpoſition of the Humours

Humours they are moſt dangerous, being not to be remedied, without correcting that Intemperies.

In a Sphacelus there is no other Remedy, but the ſeparation of the mortifyed part, the Mortification interpoſing and hindring the Effects of all external Applications. If any of the Mortifyed part remains, the putrifyed Humour preſently infects the Humours in the Parts adjacent, and corrupts the Veſſels, ſo that by degrees the whole Member is infected, and by conſent of the Nerves the Perſon is effected with Watching, Dilirium, frequent Faintings, Convulſions, Hiccoughs and cold Sweats, which are the forerunners of approaching Death.

In the Cure.

In the Cure, if a Gangrene proceed from a flux of Humours Pain and Inflammation, which often attend Gun-ſhot Wounds, and great Contuſion, a moderately cooling and ſlender Diet are to be obſerved, to allay the Heat and abate the Inflammation; and likewiſe the Humours flowing to the Part are to be averted and diſcharged by Bleeding and Purging, and whatever elſe may contribute to make Revulſion. How that Intention is to be purſued, hath been elſewhere ſhewn in the firſt part. Cordials are alſo requiſite to preſerve the Natural heat.

Scarificati-on when requiſite.

In reſpect of the Part it ſelf affected with the Gangrene, as the Gangreen is deep or ſuperficial it is to be ſcarifyed accordingly till it comes to the quick parts and the part bleeds, in doing of which, if any Veſſel be cut which makes a conſiderable flux of Blood, it is to be ſtopped with an Actual Cautery, ſince by the crouding in of Doſſils, the parts are compreſſed and the humours choaked up, by which the Mortification will be increaſed; whereas by the Actual Cautery, the Blood is not only ſtopped, but the Putrifyed

parts

parts consumed, and the Natural heat rouzed up. Again if in Scarifying, a Nerve or Tendon be wounded, or be burnt by the Actual Cautery, it will increase the Gangrene; or if sharp Medicines be applyed upon Scarification. To remedy which they are to be divided, and then the part will be easy, and no accidents attend their being cut.

The method of dressing a Mortification.

When the Mortification is scarifyed, and cleansed of the clotted Blood with a *Lixivium* or *Tinct.* of *Myr.* the Scarifications are to be filled up with *præcipitate*, or with Dossils dipped in *ol. caryophil.* or *ol Terebinth.* very hot, or *Ægyptiacum* may be used with *Spirit* of *Wine*, *sal. Armoniac.* or *Nitri*, fomenting the Part with a Decoction of *Summit. Absinth. Centaur. min. Card. Benedict. scord. Vincetox. Rad. Aristolochiæ. rotund. Gentian. spr. Vin.* &c. in a *Lixivium.* Cataplasms are likewise proper *ex farin. hord. fabar. Lupin. Methridat.* &c. in *Lixivio. coct. addend. exymel.* &c. with a Defensative to prevent the Afflux of Humours. When the Ulcer begins to warm, and the Gleet stops, these dressings are to be discontinued, and the part dressed with digestives warm as *Basil cum ol. Tereb.* after Digestion deterge with *Mund. ex Apio.* or *Paracelsus*, and then incarn and cicatrize.

A Caution in dressing Mortifications.

And here it is to be noted, that by continuing sharp Medicines, too long, the temper of the Part may be so altered, that by retrieving the Patient from one Mortification, another kind of one may be induced, by too much inflaming and heating the Part; therefore the Nature of the Mortification is to be considered, and Medicines applyed accordingly, to preserve the Natural temper of the part in a due *Medium*; neither too much depressing or exalting the Natural heat; for as Medicines contribute to the removing

removing of a Mortification, by reſtoring that Natural heat that is depreſſed; or by depreſſing and checking Corroſive humours too much exalted; ſo the Nature of the Mortification, and its Cauſes are to be duly conſidered, and whether it depends upon the Natural ferment depreſſed, or whether ill diſpoſed and depraved Humours too much exalted, occaſions the Corroſive Qualities.

Of Amputation.

IF a Mortification hath ſeized a Part, and all External Applications prove ineffectual, the Actual Cautery is to be made uſe of, which will conſume the Corroſive depraved Humours, and corroborate the parts, by communicating warmth to thoſe that are languiſhing, and ſo will prevent the Progreſs of the Mortification, by which means the Gangrened ſloughs will be the more eaſily diſpoſed to ſeparate; but if notwithſtanding the Part does not digeſt, but Inflame and Gangrene, the beſt way will be to proceed to Amputation, before the Spirits are too much exhauſted, and whilſt the Patient is free from *Dilirium* and other ill Symptoms. *When Amputation is requiſite.*

But ſince Amputation is neceſſary in other Caſes as well as Mortifications, it will not be amiſs to conſider and diſtinguiſh when it is neceſſary and when not. If then either by Splinters or great Shot, there happens to be a conſiderable loſs of Subſtance, and the principal Muſcles be torn off, and the Bone ſhivered in peices; or if a ſmall Shot happen to Wound the Joynt of the Elbow, Knee or Ankle, and the Bones are broke or the Bullet cannot be extracted; Amputation is neceſſary. If the Arm be ſhattered, Amputation is to be made above the ſhattered *In what Caſes.*

Part,

Part, but if the Ankle be Wounded, the Leg is to be cut off three or four fingers breadth below the Knee, a long ſtump being uſeleſs and troubleſome. If the Hand or Foot be Wounded, as much as you can of both are to be ſaved.

The manner of perfoming it. When Amputation is to be made, the Patient is to be placed conveniently in a clear Light; and held firm and ſteady. The Member which is to be cut off is to be held and ſupported by one, whilſt another ſtanding behind the Patient is to draw up the Skin and Muſculous Fleſh, and a Ligature being made two or three fingers breadth above the place where the Amputation is to be made, by which the Veſſels are ſecured from Bleeding and the part benummed, and the fleſh held ſteady; as alſo another Ligature is to be made at a Convenient Diſtance above that, with a Compreſs upon the the Veſſels, for the better preventing the Effuſion of Blood when the fleſh is divided; this being done and the Muſculous fleſh hawled up, the Surgeon with a Crooked knife, by a turn of his hand, is to divide the fleſh quite round to the Bone, and then ſcrape the Perioſteum off the Bone with the back of it, which would otherwiſe be apt to choak the Teeth of the Saw: this done the Bone is to be divided by the Saw, as cloſe to the fleſh as poſſible; but where there is two Bones the Fleſh betwixt them is likewiſe firſt to be divided by a Catling, or other convenient Inſtrument. The ſtump being thus ſmoothed, the bleeding Veſſels are to be ſtopped either by a Button, Cautery, Deligation, or Agglutinatives. But Eſcharoticks are not applyed without great Inconveniency; ſince they are not only apt to ſpread and be painful to the newly divided Nerves and Tendons, but keep the Fleſh from riſing about

How the Bleeding is to be ſtopp'd.

the ends of the Veſſels. If the Veſſels are to be ſtopped by Deligation, a clear Light is required to take hold of the Veſſel by the Arterial Forceps, and the Member is to be ſtretched out, that the veſſels may thruſt out after Amputation; the Arterial Forceps being then ready Armed with a Ligature, you are to take hold of the Veſſels and then bring the Ligature over the end of the Forceps and make Deligation. Or the Blood may be ſtopped by Actual Cautery.

The manner of using Actual Cautery.

The Blood being ſtopped, the Ligature is to be looſed, and Muſculous Fleſh and Skin brought down towards the end of the Stump, and as near as poſſible over the end of it; then with a ſtrong waxed Thred and Needle, take four ſtitches oppoſite to each other from ſide to ſide, about half an Inch from the Edges of the Skin, leſt they ſhould tear out; and with a Moderate Aſtriction, retain the Skin brought over the Edges of the Stump. And apply Pledgits armed with *pulv. iridis, ſuc. cepar. cum melle,* to the Cauterized Veſſels; where it is to be noted, that at the ſame time the Cautery is applyed to the Veſſels, the Bone may be alſo touched with it, which will haſten Exfoliation.

The Advantage of the croſs ſtitch.

The Skin being thus brought over, the Stump will ſooner be diſpoſed to Heal and Agglutinate; and the Extremities of the Veſſels will by that means be defended from the External Cold, and the Natural Heat thereby preſerved; whereas when no croſs ſtitch is taken, the Stump is broad and long in cure, and the Spirits likewiſe exhauſted by the Great Quantity of Matter diſcharged.

How the Blood is to be Stopped with Astringents.

When the Cross Stitch is taken, if no Actual Cautery be applyed, Buttons of Tow armed with a Restrictive, and dipped in *pulv. Galen.* may be applyed to the Mouths of the Vessels, sprinkling the Stump thick with the following powder, ℞ *bol. Armen. farin. Volat. pic. Naval. ana* ℥iiii. *aloes, Thur. Mastich. sang. Dracon. ana* ℥i. *gypsi.* ℥i. ss. *pil. Leporis. Corii. Raspat. ana.* ℥iii. *M.* applying a Mixture of the same *cum alb. ov.* on a broad Pledgit over all, which had first been dipped in oxycrate and dryed; over this another pledgit is to be applyed broader than the former, and sniped at the Edges that it may lye smooth about the Part; over this an Ox Bladder ready cut and wet is to be placed, and cross Cloths over that; then apply the following Defensative above the Stump, to prevent the Afflux of Humours, ℞ *farin. hord. bol. Armen. ana* ℥iii. *Sang. Dracon.* ℥i. ss. *flor. Ros. balust. N. Cypress. pulv. ana.* ℥vi. *acet.* ℥x. *alb. ov. No.* viii. *ol. Ros. myrt. ana* ℥i. *cerae. q. s. pulv. coq. in acet. cetera addend. ut fiat Cerot.* this being applyed with a double headed Rowler, begin upon the Stump, and rowl up to the next Joynt; and then again about the Member, to retain and keep the dressings fast.

The use of Terebinth.

But instead of the Buttons above mentioned, Buttons dipped in *ol Terebinth.* hot and applyed to the extremities of the Vessels are more effectual, and a large Pledgit dipped in the same upon the Stump instead of the Astringent Powders; which will not only stop the Blood, but promote good digestion. These Applications being made, another Pledgit may be applyed, spread with the Restrictive above mentioned, and then the Ox Bladder and cross Cloth, with convenient Bandage. But here we are to observe, that in order to the placing of the Buttons upon the Vessels,

Veſſels, the Ligature is to be ſlacked a little, when the ſtump is ſmoothed, and the Croſs ſtitch taken, that the Blood ſpurting out may the better diſcover where the Buttons are to be applyed; and likewiſe care is to be taken before the Member is rowled up, to take off the Ligatures made upon the Part to prevent Bleeding; otherwiſe the Parts will ſoon Mortify and Gangrene, the Circulation of the Blood being ſtopped, and the part deprived of a Supply of Spirits.

The Second dreſſing, when and how.

The Part being thus taken Care of, and bound up, it is not to be opened till the Third Day, leſt a freſh Flux of Blood ſhould happen, which, if it does, the Actual Cautery is to be made uſe of; but if no ſuch Accident happen, the Croſs ſtitch being cut, the Stump is to be dreſſed with digeſtives, as ℞. *Terebinth in decoct. hordei,* ℔ *lot.* ℥iii. *ol. Lumbricor.* ℥i. ſs. *Gum. Elemi. in prædict. ſolut:* ℥ ſs. *farin. hord. cribrat.* ℥ii. *Vitel. ov. No.* i. *Croc.* ℈i. *M.* or ſome other proper digeſtive. The part digeſted may be deterged with *Mund. ex apio.* or *Paracelſi,* whilſt the Wound is digeſting and deterging, the Bone is to be dreſſed with Pledgits preſſed out of *Spr. Vin.* or *Tinct. Myrrh.* to promote the Exfoliation of the Bone, and the thruſting out of a Callus. The Wound digeſted and deterged, whilſt the Bone is Exfoliating, the Part is to be incarned, and cicatrized from the Edges, keeping the fleſh down in the Middle, till the Bone is exfoliated. How a Bone is exfoliated we have elſewhere ſhewn, in the Chapter of an Ulcer with Caries; and how a Callus is thruſt out, and how new Fleſh is made by the Appoſition of the Parts of the Blood, we have explained not only in the Chapter of ſimple Ulcers, but alſo the in Third part of the General Intention in the Cure of Wounds.

CHAP. IX.

Of Fistulæ.

Description. *Fistula* is a Sinuous Ulcer, whose Cavity hath a Callus, continued from the Lips of the Wound, through all the Sinuosities of the Ulcer.

The Causes These Ulcers grow Callous, when by a Gunshot-Wound, the Ulcer is kept long open to wait for the Exfoliation of a Bone: the Cause of it is a Gross Phlegm discharged into the Cavity of the Ulcer, which by drying Medicines, and an Evaporation of the thinnest Part, hardens into a Callus.

Difference. These Fistulæ differ either according to the difference of the Parts affected; or their particular size, figure and number of Sinus's.

Diagnosticks. They may be known by their Appearance, and by touching the Parts, as also by searching with a Probe, by which if the Part be Pained, and Blood follows it, then the Callus is not confirm'd, but if it be insensible, and does not bleed, the Fistula is confirmed, and they discharge a thin Serous fætid matter, the Grosser Serum not being able to discharge it self through the Callosity.

The Prognosticks. All Fistula's are difficult to Cure; but the worse as they are of Continuance, especially those that discharge depraved Humours from the Viscera. If they happen amongst the Bones or great Joynts they are difficult to Cure, those Parts being incapable of Dilatation; and not admitting Incision:

Incision: But in such Parts as may easily be laid open, or where the Callus may easily be removed, are more easily Cured.

In the Cure of these *Fistula*'s, since they are subject to Pain and Fluxion. The Influx of Humours is to be prevented by Bleeding and Purging, and internal Medicines as in the Cure of *Schirrus* Tumours; observing also a regular and convenient Diet. *The Cure.*

The Intemperies and depraved Disposition of the Blood, being thus removed. The disease it self is next to be regarded, and the *Fistula* to be cured by Manual Operation or Use of Medicines.

If the Fistula be directly downwards towards the Bone, and without Pain or Matter, it will in time grow up; but if it be otherwise, if it may be done without dilating it, it must be laid open the whole Length, and the Callus being separated, the Cure is the same as of a Common Ulcer.

But if the Orifice of the Fistula be so small that it cannot be laid open; in order to dilate it, Tents made of prepared Sponge, *Gentian* or *Aristolochia* Roots will be necessary. And that the Part may more easily dilate, it will be convenient Externally to make use of such Medicines, as are Emollient and Discutient, to soften the indurated Part, and to discuss the Humours setled about it. As *Rad. althææ. lil. enula. Campan. sigil. Solomon. Cucum. agrest. sem. Lini. fænugreci medul. ossium, exung porc. human, anseris, Unguent. de Althæa, Gum. Ammon, Galban,* which may be used in the form of Fomentations or Cataplasms; also *Emp. de Mucilaginibus, Diachyl. cum Gum.* or *de Ranis cum Mercurio,* may be serviceable. The Fistula thus disposed to dilate, may be laid open, and the Callus removed and cured, as a common Ulcer.

The Use of Cathereticks.

But if it be reasonable to propose the Cure by Medicines; when dilated, the Callus may be consumed by Cathereticks, as *Lap. Caust. Vigonis, troch. de Minio* or *Arsenicum*, or ℞ *ceræ, Rezin. ana* ℥i. *sublimet.* ℈ii. differing the proportions as the case may require it Stronger or Weaker; with which Sponge is to be prepared, as may be convenient, making the Tents bigger or less; or the following Injection may be used, stopping up the Orifice after the Injection with Wax, ℞ *Unguent. Ægiptiac.* ℥ss. *sublimet.* ℥ss. *Arsenic.* ℈i. *Luxiv. Sapon.* ℥i. *aq Rosar.* ℥ii *aq. plantag.* ℥v. *coq. ad tertiæ partis consump.* a little of which is to be injected two or three times a day. But when these Corroding Medicines are made use of, care must be taken, lest they offend any Parts underneath; and likewise, whether the Callus be extended the whole Length of the Sinus; otherwise the Parts where the Callus is not formed, will be consumed before the Calosity is removed.

Pain and Inflammation how to be relieved &c.

If by the Use of these sharp Medicines, Pain and Inflammation be occasioned, the Pain is to be relieved by Lenient Emollient and Anodyne Fomentations, as *fol. Malv. Bismalv. hyosciam.* &c. and the Part dressed with *Basilicon cum ol. Lil. Ung. de Althæa*, &c. applying a Defensative to prevent the Influx of Humours. The Inflammation abated and the Slough separated, the Ulcer may be deterged with the following. ℞ *Terebinth. in aq. vitæ lot.* ℥iii. *suc. Apii Cynogloss. ana* ℥vi. *mel. Rosar.* ℥i. ℈s. *coq ad suc. Consumpt. deinde add. rad. Aristoloch. rotund. pulv.* ℥vi. *farin. Lupin.* ℥ss. *M* The Ulcer sufficiently deterged, by an Addition of *Myrrh. Thur. aloes, sarcocol.* &c. the forementioned Detergent will incarn; and the Ulcer incarned may be cicatrized with *Unguent. alb. Camph. Desicativ. rubr.* &c.

If

If the Bone be Carious, it is either to be removed by Actual Cautery or Rugining, as it is deep or superficial; and the Bone to be dressed with such Medicines as promote exfoliation; but if the Bone be covered by a Nerve, Tendon or Artery, so that it cannot be relieved by Actual Cautery, nor the Application of proper Medicines, then it is to be eased by proper Injections or Unguents to palliate the Symptoms, and the Influx of Humours is to be prevented by Bleeding, Purging, and Internal Alteratives, and a due Regimen in Diet.

If the Bone be Carious what is to be done.

A

SYSTEM

OF

Rational Chyrurgery.

PART. IV.

CHAP. I.

Of Fractures.

Definition

A Fracture is a Solution of Continuity in a Bone ſuddenly made, by the Violence of ſome External Accident, as Contuſion or Fluxure. By Contuſion a Bone is broke, when by a Blow with a Blunt inſtrument, or the force of ſome weight the parts of a Bone looſe their Contiuuity, in which Caſes the

the Flesh about the Bone is bruised as well as the bone it self. When a bone is broke by Flexure, the Flesh is seldom contused, except by the edge of the Fractured bone internally.

Fractures differ from one another, either according to their Figure, being either right according to the length of the Bone, or Transverse, or obliquely. Secondly, they differ according to their Magnitude, being large or small. Thirdly, according to the Difference of the Bones fractured, whether it be the Bone of the Leg, Thigh, Arm, *&c.* Fourthly, as they are simple or compound. *Differences.*

The Causes of Fracture is external Violence made by Accidents, as a Blow, Fall, Presſure, *&c.*

A Fracture commonly is very evident, or may be perceived: First, by crackling of the separated Bones when we handle them. Secondly, by the Impotency of the Part, being disabled from performing it's Office. Thirdly, by the violent Pain and Distortion of the Part, or a Fracture may be found out by comparing one Part with another, which is not damnifyed, the Fractured Part being shortest. In Compound Fractures, where a Wound is complicated with the Fractures, either the Bones thrust themselves out through the Wound, or the Fracture may be perceived by searching with a Probe, or feeling with ones finger, but sometimes a Bone is fractured, without mis-placing the Extremities of the Fractured bones, the Part appearing crooked, which is Cured by Extension without much Pain or Trouble. If a Fracture be Longitudinal, The Part will appear thicker than usual, and painful and unequal. *The Diagnosticks.*

Fractures

The Prognosticks. Fractures are more dangerous in great bones than in small ones, and where two bones are Fractured than if only one, as in the Leg or Arm, where there are two bones. Fractures near the Joynts are more Painful and Dangerous than if they happen near the middle of the bone, and more difficult to Cure. If they be broke in shivers, and the shivers prick the Nervous Parts they occasion ill Accidents. Compound Fractures are more dangerous than simple Fractures.

Intentions of Cure. In the Cure of Fractures, The First Intention, is to Joyn the Fractured Parts together. The Second is, to keep them so joyned. The Third, to preserve the Tone of the Part. The Fourth, to generate Callus. The Fifth, to correct ill Accidents.

The First Intention. In order to the first Intention, Extension and Coaptation are necessary. For since in Fractures the Bones are distorted, and the Rectitude of the Part lost, extension is requisite to bring the Parts right again, and that the Parts that stick out, and lye unequal, or ride over one another, may be reduced to their Natural Position; for it often happens that for want of due Extension to reduce the bones to their proper places, the Limbs are shorter than they would be, if the bones were rightly reduced; besides when they are not reduced as they ought to be, they are apt to fly out of their places, and occasion ill Symptoms.

How Extensions are to be made. As for the degree of Extension it ought to be proportionable to the Nature of the Fracture, and the greatness of the Part to be extended, that the ends of the Fractured bones may not rub and fret against one another, whilst they are reducing, lest any of the Fractured bones being broke off, should fall between the main bones and hinder their

their Union, or falling externally and pricking the Membranes, ſhould occaſion violent Pain; beſides if the Extenſion be not ſufficient it will be impoſſible to reduce the Bones into their proper places, which will be apt to lye one over another. On the contrary, if the Extenſion be too violent it will be apt to occaſion ill Symptoms, as Convulſions and Inflammation. But if the bones be Large as in the Thigh, Legs and Arms, ſtronger Extenſion is required, than in ſmaller. If the Bones of the Arm be both broke, the Radius requires the ſtrongeſt Extenſion, having no Muſcles to draw it upwards. In making Extenſion care is to be taken, to keep the Part in ſuch a poſture, that the fibres of the Muſcles may be extended according to their Rectitude. In Children and young bodies the parts more eaſily give way to extenſion than in old ones, where the parts are more firm and dry.

How ill Symptoms are to be prevented.

When a bone is Fractured, the ſooner it is reduced the better, for after the ſecond day, Pain and Inflammation will occaſion a great Defluxion of Humours, which may produce a Mortification, or at leaſt, make the Extenſion difficult and dangerous; therefore if it is not done before there is much Tumour and Inflammation, the Inflammation and Tumour are firſt to be reſtrained, by proper Lenients and Repellents, and Expulſive Bandage; by which means the Inflammation abating, which is about the Ninth or Seventh day, the Extenſion will be more eaſily made, and the Coaptation and Reduction performed with leſs difficulty.

The method of making Extenſion. The manner of making Extenſion is threefold. Firſt, by Hand which is the Gentleſt way of making Extenſion; in performing of which the Chirurgeon's hand is to be placed near the Fracture, leſt the ſound Part be hurt by the Compreſſion. The Second degree of Extenſion is, by Funes & Habenæ, a convenient Bandage being made, by which the Part is to be extended. The Third way of Extenſion is by proper Engins, which are of uſe in Parts, where great Extenſion is to be made. When ſufficient Extenſion is made, care muſt be taken to looſen and ſlacken the Extenſion gradually, whilſt the Operator endeavours gently to preſs the Extremities of the bones into their proper places, ſo that they may lye ſmooth and equal; and if there be any Splinter which connot be placed ſmooth and even, it muſt be moved and taken out, by making Inciſion. Signs of a good and perfect Coaptation are, firſt, the likeneſs and equality of the Fractured Part with the ſound. Secondly, the ſmoothneſs and even poſition of the parts when we handle them, there appearing no Inequality. Thirdly, they Eaſe the Patient finds, and Abatement of Pain. But when a Part is Fractured, before Extenſion we are to obſerve, whether the Part be Fractured in more parts than one, and make Extenſion accordingly.

The Second Intention by Bandage. The Second intention is to be performed by Bandage, which is to be ſo made, that it may not only preſerve the Bones joyned together in their proper places, but may alſo defend the Part from the Influx of Humours. This is done by three Rowlers made of Cloth, which may lye ſoft and eaſy upon the part, yet ſtrong enough to keep the part firm, and bear the Streſs of Rowling without breaking.

With

With the First Rowler you are to take three turns about the Fracture, and then Rowl upwards and make the Rowler fast. By this the Fracture will be kept steady, and the part defended from Fluxion and consequently Inflammation. *The method of using the first Rowler*

The Second Rowler being as long again as the former, is to begin upon the Fracture, where having taken a turn or two, the opposite way to which the first Rowler was turned, it is to be Rowled downwards, three or four turns, and then returned upwards again, and passing over the Fracture is to terminate, where the first Rowler ended. This Rowler is passed the opposite way to the first, that if the Muscles were distorted with that, they might be restored to their proper places again. Over these two Rowlers the Splenia or Compresses are placed, being made of Linnen Cloth four times doubled, of a convenient Length to reach over the Fracture, and so narrow that five or six may be placed about the Fracture, a fingers breadth from one another. *How the Second Rowler is to be applyed.*

The third Rowler is to be upon these Compresses, which consisting of two Heads: a turn is to be taken upon the Fracture and one part of it rowled downwards, and the other upwards. Where it is to be observed, that in passing these Rowlers, they are to be bound streighter upon the Fracture than any other part, to prevent Fluxion, and to prevent the Bones from slipping out of their places. Yet care is to be taken not to bind so tort, as to hinder and obstruct the Circulation of the Humours. If the Day after Rowling a small and lax Tumour appear below the Bandage, it is a good Sign, that it is neither too hard nor too slack, but if there be no Tumour it shews that the Bandage is too slack, and *The manner of using the Third Rowler.*

if

if there be a great and hard Tumour, that ſhews that the Bandage is too hard, and obſtructs the Reflux and free Circulation of the Humours.

When the Fracture is to be opened.

If no ill Accident happens the Fracture is not to be opened till the Seventh Day, when the Bandage will begin to ſlacken of its own accord, the Fluxion and Inflammation being then over, and the Parts relaxed; and then if there be any Error in the Poſition of the Part or otherwiſe, it is to be mended, and ſince by ſo long a Retenſion of the Humours diſcharged by Tranſpiration, they are apt to grow ſharp and cauſe a violent Itching, which often produces a painful excoriation, and redneſs with Inflammation, it will be requiſite to bath the Part affected with warm Water, to give a breathing to the Parts, and eaſe them by a Gentle Perſpiration.

The Part being thus opened, and relieved (which is not to be done ſooner leſt the Bandage ſlackened, the Part ſhould give way to the Influx of Humours,) and the Danger of Fluxion and Inflammation over, the Part is to be bound up again, applying *Ferulæ* or Splints inſtead of the Splenia or Compreſſes. Yet if the Fracture happen near the Joynts, or where Splints cannot be conveniently applyed, Compreſſes wet in the Whites of Eggs may be continued the whole Cure. But where Splints may be ſafely uſed, they keep the part both ſteady and ſtraight, and may be made either of Tin, Scabboard, or Wood, ſewed up in Linnen Cloth.

How the Third Intention is performed.

The Third Intenſion in the Cure of a Fracture is to preſerve the Tone of the Part; and ſince Nature cannot ſo well perform her Part, whilſt the Body abounds with ill diſpoſed Humours, which may affect the Part, Bleeding is convenient to empty the Veſſels, and diminiſh the Quantity of any peccant Humour, and the Body

Body is alſo to be kept open by Clyſters, the Patient obſerving a convenient and ſlender Diet, that the Body may not be filled with groſs Humours, whilſt confined and debarred from the Advantage of Exerciſe. Externally Aſtringent Repellents will be convenient, as *ol. Roſ. Myrt. baluſt. roſ. rubr. ſang. Dracon. bol. Armen.* made into the form of a Liniment with Red Wine, which may be ſpread upon Cloth, and applyed to the Part or *Emplaſt. Diapalm.* with ſome of theſe powders. and a ſufficient Quantity of *Oyl* of *Myrtles* and Vinegar may be employed in the Form of an Emplaſter, or Oyl of Myrtles and Roſes with Red Wine and the Whites of Eggs; theſe Aſtringents not only prevent Fluxion, and ſtrengthen the Tone of the Parts by contracting its fibres, but, along with Bandage, help to prevent or expel any Humours that might ſettle in the Fractured part about the Extremities of the Bones.

A due Poſition of the Part to be obſerved.

But beſides External Applications, a due Poſition of the Part is alſo neceſſary to preſerve the temper of the Part. And firſt the Part ought to lye ſoft, leſt any hard thing preſſing upon the bruiſed parts ſhould occaſion Pain and Inflammation; the Poſture likewiſe ought to be equal and raiſed up, leſt the Part ſhould be diſtorted, or the Humours ſhould happen to fall upon the Part. If the Leg be fractured it ought to be placed ſo, that the Hollow of the Ham and Heel be filled up, that every part may bear its own weight without preſſing upon any particular Place.

The Fourth Intention. The Fourth Intention is to promote the Generation of a Callus; which is to be endeavoured as soon as, by the use of Astringent Repellents the Part is strengthned and the danger of Inflammation and Fluxion is over, which is about the Seventh Day. Medicines which are proper to promote the Generation of a Callus, are such as by their warm and Emplastick Virtue and Qualities, preserve the Natural Heat, and so assist Nature in her Work; in tender Bodies where Nature is strong and able to exert her self, Medicines moderately warming are sufficient, as the Whites of Eggs with *farin. Volatilis*, but in stronger Bodies *pulv. Myrrh. aloes. acacia. gum. tragacanth. Thus. Labdanum*, &c. *Emp. Stict. Paracels. Diapalm. Oxycroc.* either separate or mixed, or *Catagmaticum.* As for the Nature and Manner, how a Callus is formed, and how it is assisted by External Applications, I have already explained in the second Part, in the Chapter of Ulcers with a *Caries*, and therefore shall not repeat it here, nor shall I here spend time, or enlarge this Book with disputes or arguments to confute the Opinions of others, being content to propose that which I think most reasonable and consonant to Nature, the Body being considered, as a Vascular Engin, and the Humours being liable to be affected by the evident Qualities of Medicines. To what therefore I have already said before of the Nature of the Generation of a Callus and why Medicines are assistant to Nature, I shall only add, that in Fractures; the Medicines externally applyed have not so immediate an Influence upon the Bones as in a Caries, where there is only the Thickness of the Caries to interpose; and as in that Case, Medicines assist the Generation of a Callus, their warm Effluvia exciting the Natural Heat, so here they

How a Callus is Generated.

encourage

encourage the Natural Heat in the Bones not only by their Subtle Effluvia penetrating through the pores of the part, but also by warming the parts about the Bones, which consequently excites the Natural Heat in them; besides as their gummy and rezinous parts, not only warm the external parts, but by clogging and obstructing the exit of the serum by Transpiration, as all viscous Bodies do, they seem to add an accidental Warmth, by retaining the warm Effluvia of the Body, which encreasing the Natural Heat of the Part, seems to assist the Native Heat in thrusting out a Callus, as I have observed, in the Chapter of an Ulcer with a Caries.

What I shall here observe further is, that as a Gentle Heat is sufficient in tender Bodies, where the Bones are soft, to encourage a Callus, as in Children, so it is worth Noting, how in grown Bodies the softer the Bone, the sooner it thrusts out a Callus; as in small Bones sooner than in great ones; and as a Callus is formed after the same manner as flesh which supplys the loss of Substance in a Wound or Ulcer, so in fleshy Parts it rises faster than in Bones, if no superfluous Moisture of a heterogenous Quality disturbs and interrupts Nature in her Work.

How the Generation of a Callus is hindered.

Now as too much Moisture is prejudicial in incarning, and also in the Generation of a Callus in a Caries, so in forming a Callus in Fractures, if the Blood is disturbed with too much Superfluous Serum, it delays the Confirmation of a Callus; for which reason Internals are given, which incrassate and thicken the Blood and Serum, that the Apposition of firmer Parts which come nearer to the Consistence of a Solid Body may the more easily assume a Solid Form, thus *Osteocolla* ℥i. *in aq. Rad. Symphyt.* is esteemed a Specifick in promoting and confirming a

Callus, it rendring the Serum of the Blood, as well as the Blood it self of a better Consistence; so that the Serum flows not so plentifully into the Part to disturb Nature, and overwhelm the Callus with too much moisture; and the Blood it self sooner forms a Callus, it being disposed to a more ready Cohesion and Apposition of Parts.

Whilst a Callus is forming, the Rowling ought not to be so streight as before, the Parts requiring a free Circulation.

Whether a Fracture be Transverse or Longitudinal, the same method of Cure is to be made use of, only a stricter Bandage is to be observed in the Latter, to keep the Bones close together, which otherwise will be apt to rise and make the the Parts Gibbous.

The Fifth Intention to resist ill Accidents.

The Fifth Intention is to correct those Accidents, which may prolong the Cure of Fractures. As Pain, Inflammation, Apostemation, Gangrene, Excoriation, a Luxuriant Callus, or too little of it. Weakness of the Part and a depraved figure. If Pain affect the Part, Lenients; and if it be attended with Inflammation, Lenient Repellents are proper to resist the Influx of the Humours, that occasion those Symptoms; if there appear any danger of a Gangrene, the Bandage is to be slackened and the Part fomented with a Lixivium with *Absinth. scord. Centaur.* &c. applying a Catapsalm proper in such a Case. If the Fracture be attended with Itching, bath the Part with warm water, and if excoriated, *Unguent. alb. camph.* or *Nutritum* and *populeon* may be used which will allay the Heat of the Humours, and Cicatrize.

If the Callus be too great, it will be perceived to be so by being protuberant, and painful, when pressed upon, the Part being likewise rendered unapt for Motion. When this happens, a spare diet is to be ordered, that the Luxuriant Callus may not be supplyed with Superfluous Moisture, and the Influx of it is to be resisted by stricter Bandage, and that which is already lodged in the Callus is to be consumed and dispersed with Discutients in the form of Fomentations, as also Discutient Emplaisters are to be applyed as *Emplaist. de Cicuta, de Ranis cum Mercurio*, &c.

But if the Callus be less than it ought to be, the Bone is weak, and the Callus not perceivable; in which case a plentiful Diet consisting of such things as afford good Nourishment is necessary; and the Bandage is to be slackened; the Part is also to be bathed with warm water till the skin is tumifyed and begins to be red, that the Vessels being extended may bring Humours more plentifully to the Part. If the Part be emaciated, by bathing too much with warm water, and too strict Bandage, then bath with fresh broths, and use such Embrocations as may warm the Part, and by clogging the Pores of the Skin, retain the natural heat and moisture which would otherwise transpire through the pores of the skin.

If the Part happens to be of a depraved figure, the Bone being not well set, if the Callus be not well confirmed, it must be broke and set again, to remedy that deformity, to which end the Callus is first to be softened with Emollient Decoctions, Liniments and Emplaisters, but if that will not do, it is better to be content with such an Accident, than hazard the breaking of it, when confirmed by it's long Continuance.

Thus much being ſaid of the Method of Curing Fractures, and relieving their Accidents in General, I ſhall only add briefly the Method of reducing particular Fractures; the Method of Cure, appearing from what hath been delivered above.

The method of reducing Particular Fractures and the time of their Uniting.

If the Bone of the Noſe be broke, the Part raiſed is to be depreſſed, and the depreſſed Part is to be raiſed with a Spatula; then a hollow Pipe or Tent is to be put up the Noſtrils, and a Fracture Plaiſter applyed externally: A Callus will unite it in about twelve days. If the Jaw Bone be broke, the head is to be drawn backwards and the Bone forwards, and the Fracture reduced, placing the fingers both on the inſide and outſide. This Bone unites in about twenty days. If the Clavicle be broke, the Arm is to be drawn backwards and the head forwards whilſt it is reduced. It unites in twenty four days. If the Scapula be broke near the Joynt, it is for the moſt Part Incurable. If broke near the Acromion, the Arm is to be pulled downwards whilſt it is reduced. If it be broke into ſeveral peices which are not likely to unite, Inciſion is to be made, and the looſe peices are to be taken out, leaving the reſt to Nature: It is healed in Forty Days. If the Sternum be broke lay the Patient on his back, preſſing both ſhoulders backwards; then preſs the Ribs backwards and forwards till the Bone be reduced: It unites in thirty days. A Simple Fracture of the Ribs may be Cured in twenty days, by the Application of a convenient Plaiſter for Fractures: If they bend inward, let the Patient hold his Breath whilſt they are reducing. A Simple Fracture of the Joynts of the back-bone, may be Cured in twenty days; but if the Spinal Marrow be hurt, it is Mortal. The Hip Bone will unite in twenty

ty four days. If the *Os Humeri* be broke, first bring the Elbow downwards, and then extend and reduce it, and continue it in that Posture till Cured. This Bone will unite in forty days; and so will the Thigh Bone. The Bones of the Cubit and Leg unite in thirty days. If the Patella be broke length-ways, it will unite in twenty days.

CHAP. II.

Of Compound Fractures.

A Compound Fracture is a solution of Continuity in a Bone made by external violence, complicated with a Wound. *Definition.*

In a Fracture with a Wound, if neither the Bone be bare, nor start out through the Skin, the ends of the Fractured Bones are to be brought together, as in a simple Fracture; and the Lips of the Wound are to be brought together by Suture; if they are not too much contused. The Lips of the Wound thus brought together are to be retained so by proper dressings, which may not only ease the the Pain, but prevent the Influx of Humours, and dry up what hath already affected the Part; by which the Wound will be prevented from Apostemation, and the Bone from being fouled. And this is to be done by proper Astringents, as proposed above in Simple Fractures, *viz.* by Astringent powders mixed with the Whites of Eggs *How Compound Fractures without Contusion are to be treated.*

and red-Wine, which is to be ſpread upon Cloth and ſo applyed. This being done the Part is to be bound up with proper Bandage. Bandage in theſe Caſes is to be made of two or three ſhort Cloths, foulded three or four times double to make them the ſtronger; and of ſuch a Convenient Breadth as to cover both the Lips of the Wound and the Fractured Parts; and of ſuch a Convenient Length, as to reach once about the Part, and to ſtitch on the moſt convenient ſide. Under theſe, Compreſſes of Tow or Double Cloths, may be placed, to keep the Lips of the Wound down, and fill up the Inequalities, as well as promote the Expulſion of Matter. Sometimes the Fractures is ſuch, that Splints are altogether neceſſary, and when they are, they are to be applyed ſo, that the Lips of the Wound may be kept even, and that they may not hinder the Diſcharge of the Matter, leſt being preſſed back into the Wound, they ſhould dilate it, and foul the Bones. But if the Bone be bare and thruſt it ſelf out of the Wound, the Bone is firſt to be reduced to its Natural Poſition, and the Wound ſtitched and dreſſed as before directed; but if the Bone be foul, when the two ends of the Bones are united and the Callus hardened and dryed, the Bone may be exfoliated, by a Mixture of *Ægyptiac.* and *pulv. Myrh.* diſſolved in Spirit of Wine, applyed hot upon an armed Probe; and the Bone exfoliated, the Ulcer is to be cured by the Ordinary Intentions.

When the Bones is thruſt out what is to be done.

When the end of the Bone thruſts it ſelf out, ſo that it cannot be reduced without violent force, the end of the Bone is to be ſawed off, before the Part is affected with a Gangrene, and then the Lips of the Wound are to be brought together by Suture, and dreſſed with a Warm Digeſtive, as *Baſil. cum ol. Terebinth.* and *Emp. Diachalcit.* ma-

laxed

laxed with *ol. Rosar.* over it, applying the following mixture over all to prevent Fluxion and Inflammation, ℞ *fl. ros. rub. balust. Myrt. Bol. Armen. Sang. Dracon. ana q. s. pulv. et cum alb. ovor. ol. rosar. et aceto. M. ad consistent. mellis*, this being fastened with Bandage, and Splenia over the Bandage, to steady the Part and keep it firm, Ferula are to be placed over the Splenia, and fastened on by convenient Ligatures, the Part is to be placed in a proper Posture upon a Pillow, for the better security, in a Wooden Case, to keep the Parts in a Constant steady Position.

Regard to be had to the Accidents.

But these Fractures attended with large Wounds, if near a Joynt, are subject to violent Pain; the Tendons and Musculous Flesh being torn and stretched by Extension, which frequently occasions ill Symptoms, as Fever and Mortification, in which Case the Patient is to be treated according to the Common Intentions in those Accidents; as the Fever is to checked by Bleeding, Clysters, Anodyne Draughts and Emulsions, *&c.* and the Mortification scarifyed and dressed, with *Ægypt.* and *Spr. Vin.* regard being still had to the Wound and the Bones which are to be united.

A Caution.

But care is to be taken after Extension is made, and the Bone reduced, if there be any loose Splinters of Bones, to take them out, lest by pricking the Periosteum, or other Parts, they cause Pain, or Apostemation. The Part being thus cleared, of what is extraneous, or likely to occasion ill Accidents, and dressed with Astringent Repellents, to prevent Inflammation and the Influx of

Humours, Bandage is to be made, ſo that you may come to dreſs the Wound, without diſturbing the Fracture. Care is likewiſe to be taken, not to offend the Parts with the Splints, if occaſion requires the uſe of them, till the Inflammation be over, and the Wound well digeſted. When this is done, the Bones ſtripped of the *Perioſteum* are to be exfoliated and incarned, and the Ulcer Cicatrized by Epuloticks.

A

SYSTEM

OF

Rational Chyrurgery, &c.

PART. V.

CHAP. I.

Of Luxations in General.

A Luxation or Diſlocation is the forcing of a Bone out of it's Natural place, ſo as to obſtruct Motion. *Definition.*

The Cauſes are either External, proceeding from ſome External Force; or Internal, depending upon ſuch an Afflux of Humours in and about the Joynts, as to render the Ligaments too ſoft and lax. *Cauſes.*

Before

The Nature of Articulation.

Before we can well understand the manner of Cure, it is requisite to know the Connection of the Bones one to another, and how many ways they may be dislocated, which will the better enable us to make use of the best Method in reducing of them. The Connection of the Bones is either by *Symphysis* or Articulation.

By Symphysis how many ways.

Symphysis is a Connection of Bones for firmness, and is either without, or by the Interposition of, a Medium. Of those which are joyned without the Interposition of another Substance, there are three sorts. *viz. Suture* which is a Conjunction of the Bones in the Skull by being indented one with another. *Harmonia*, which is a Conjunction of the Bones by Mutual Contact, without indenting, or the Interposition of another Substance. *Gomphosis*, which is a Conjunction of the Bones, as of the Teeth in the Socket.

Of that sort of *Symphysis* which is made by the Interposition of another Body, there are likewise three sorts. *viz. Syssarcosis*, when two Bones are joyned together by the Intervention of Flesh. *Synneurosis*, when the Bones are joyned by Ligament as the *Ossa pubis*; or *Synchondrosis*, when they are joyned together by Gristles, as the Sternum to the Ribs.

How many sorts of Articulation.

Articulation is a Connection of the Bones with aptness for Motion, and is either Apparent or Obscure. That Articulation which serves for Apparent Motion, is called *Diarthrosis*. That which serves for obscure Motion, is called *Synarthrosis*, of each of which there are three kinds. As,

Enarthrosis,

Enarthrosis, where a round head is received by a Cavity; which if it be deep is called Cotylæ; if shallow Glene, as the Cavity of the *Os Coxæ* which receives the Protuberance of the *Os Femoris*; or the Cavity of the Scapula, which receives the *Os Humeri*.

Arthrodia, where the Cavity is very superficial, as between the head and the first Vertebræ of the Neck, which is *Diarthrosis*, and betwixt the Carpus and Metacarpus in *Synarthrosis*.

Ginglymus, when the two Bones are mutually received into each others Cavity, as the Elbow, in *Diarthrosis*, and the Vertebræ of the back in *Synarthrosis*.

Luxations differ according to the Part affected, as whether it serves for obscure or apparent Motion; or according to the Degree, as whether it be wholly dislocated, or partly, by the relaxation and stretching of the Ligaments, or from the Scituation of the Part; whether upwards, downwards, forwards or backwards, *&c.* They differ also according to the Accidents that attend them, as Inflammation, Wounds, *&c.* *Differences.*

The Signs of a Luxation, are the loss or imperfect Motion of a Joynt, and a difference from the sound Part; as also a Cavity on one side, and a Protuberance on the other. The Part is also longer or shorter as the Part is distorted. *The Diagnosticks.*

In Children and Moist Bodies, the Bones are easily reduced, but apter to slip out again; which is otherwise in dry and grown Bodies, they being in them, hard to reduce and more easily retained. If of long continuance they are hard to reduce, as well as to retain them in the proper place. Those of the Vertebræ of the back, if occasioned by External Accidents, are commonly Mortal, the Spinal Marrow being hurt, by the violence of the Cause; but if made by the congestion *The Prognosticks.*

ſtion of Humours they are often cured. When a Bone is diſlocated it preſſes upon the adjacent Parts, which as they are more or leſs ſenſible, the Pain and Accidents that attend them are violent or more remiſs.

How many Intentions. In the Cure there are four Intentions. *viz.* Extenſion, Repoſition, Ligature and Poſition.

The Firſt. Extenſion ought to be gentle, yet ſo much that the ends of the Bones may not rub upon one another whilſt they are reducing.

The Second. When the Extenſion is made, the Luxated Bone is to be reduced into its proper place the way it ſlipped out. If it lye on the right ſide, it muſt be forced back to the left. If it be diſlocated forwards, it muſt be preſſed backwards. If a Bone hath been long diſlocated, or the Contraction of the Muſcles is great, the parts are to be relaxed before the Extenſion with Emollient Embrocations, as *Unguent. de Althæa. axung. porcin. ol. lil.* and in Caſe of Inflammation, *ol. Roſ. myrt.* mixed with Emollients, leſt by violent Extenſion the Inflammation ſhould be encreaſed, or by ſtretching the Parts too much, the Nerves be affected and cauſe a Paralyſis.

The Third. The Bone being reduced is to be kept in its place by Ligature, having firſt applyed ſuch Medicines as reſiſt the Influx of Humours, and ſtrengthen the Tone of the Parts, which are Aſtringents, as *bol. Armen. Sang. Dracon. farin. volat. fl. roſar. baluſt. cum. alb. ovor. aceto.* or *Vin. rubr.* or ℞ *Thur. Maſtich. bol. Armen. ſang. dracon.* ℥ſs. *farin. volat.* ℥i. *cum aceto. M.* If there be great Pain embrocate *cum ol. Roſ. Lumbricor.* and apply *Emplaſt. de Bol.* or *De minio*, then a Compreſs being placed on that ſide it was diſlocated, leſt it ſhould ſlip out again, the Part is to be bound up as Circumſtances require, and retained in its proper place.

The

The Fourth Intention which is due Poſition of the Part, ought to be ſuch, that the part may lye ſoft and eaſy, and a little raiſed, that the Humours may be leſs apt to ſettle about the Part; yet the Part is not to be too much bent, leſt the Muſcles conſtantly contracted ſhould grow ſhorter. If the Shoulder be diſlocated, the Elbow ought to be placed to the ſide and the Hand upon the Breaſt. If no Accident happen, it is not to be opened till the Seventh Day, and then the Joynt is to be moved to and fro, and dreſſed up again, with ſtrengthning Medicines, avoiding greaſy things which ſoften, and relax the Ligaments. If the Part Itch, for want of free Perſpiration, to give a breathing to the parts, bath them with warm Water, or a Decoction of *Summit. abſinth. fl. roſ. rubr. baluſt. bac. Myrt. Junip.* &c. with *Spr. Vini.* *The Fourth.*

If a diſlocation be occaſioned by a Congeſtion of Humours, which relax the Ligaments and Tendons, or are gathered in the Joynt, they are to be attenuated and diſcuſſed by Emollient Diſcutients, as ℞. *rad. Althæa.* ℥ vi. *rad. Cucum. aſinin.* ℥ iii. *ſum. Majoran. M.* ii. *in Brodio ex pedibus vitulin. coct. et contuſis add. pulv. ſem. fenugraci et lini. ana* ℥ i. *ol. lil. axung. human. ana part æq. M. F. Cataplaſma*, or *Emp. de Mucilagin.* or *Emp. de Raxis cum Mercurio*, may be applyed. The Matter thus diſperſed, the Bone is to be reduced, and Medicines applyed, as directed in the third Intention, with good Bandage.

CHAP.

CHAP. II.

Of the Dislocation of the Lower Jaw.

Description of the Articulation.

THE Lower Jaw hath two Processes on each side. One Acute, called Corona, to which the Tendon of the Temporal Muscle is fixed, and by which it is moved in the Hollow of the Cheek, having no Socket to move in. The other hath an obtuse round Head, called Condylus; which is received by the first Sinus of the *Os Temporum*, in which it moves. It is kept close by the Temporal Muscle, and the Masseter which is fixed to the outward broad Angle on the other side the Corona; and by the Pterygoides, which is fixed to the Inside of the Broad Part of the Jaw. These Muscles by their Tonick Stricture keep it in its Natural Scituation, but when Contracted hawl it up more closely. When they are violently contracted, and the Jaw pulled down before by the Muscles, that open the Mouth, they hawl it up out of it's Sinus, and cause a Dislocation, which sometimes happens in Gaping, or when they contract violently in gnawing any thing that is hard. This Bone can only be dislocated, by sliding out of the fore-Part of the Sinus, into the Cavity of the Cheek, under the *Os Jugale*.

The

The Signs of it being diſlocated, are, it's being thruſt forwards, ſo that the Teeth, ſtart out below thoſe of the upper Jaw, ſo that the Perſon can neither chew, nor ſwallow, nor ſpeak, nor ſhut his Mouth. The Temporal Muſcle appears rigid before the Jaw is tumifyed; and if the Diſlocation be on one ſide only, the Mouth is diſtorted as in a Spaſmus. *Signs of Diſlocation.*

The Reduction is difficult, if not done before the Part is tumifyed; and dangerous, ſince the Perſon can neither eat nor drink. *Prognoſticks.*

In reducing this Bone, the Perſon is to be ſeated firm, and his Head held ſteady; then a couple of Wedges are to be placed cloſe between his great Teeth, as far as they can be thruſt, your Thumbs being cloſe by them, and your Fingers externally under both Jaws, making a moderate extenſion, & at the ſame time raiſing the forePart of the Jaw, and depreſſing the further part. If the Teeth are too ſharp to preſs your Thumbs upon them, a fould or two of Linnen may be put between. If the Diſlocation be only on one ſide, move to the oppoſite ſide, and proceed as before directed, making a quick moderate Extenſion. If the Bone be reduced, the Teeth will meet equally, and the Mouth open and ſhut, and the Speech will be recovered. To prevent a Second Diſlocation apply a Defenſative with Bandage. And if Pain continue, embrocate the Temporal Muſcles with *ol. Lumbricor.* &c. *The manner of reduction.*

CHAP.

CHAP. III.

Of the Diſlocation of the Cavicle.

The Deſcription of the Articulation.

THe Clavicle or Collar Bone is crooked and of the Figure of an S being thicker and almoſt three ſquare at one end, which is fixed in a Cavity in the firſt Bone of the Sternum, and tyed by a ſtrong Ligamentous Membrane. The other end which is broad and flat is joyned to the Acromion, keeping the ſhoulder at a diſtance from the Sternum, and aſſiſts thoſe proceſſes, that prevent the Shoulder Bone from ſlipping upwards.

How many ways diſlocated.

It may be diſlocated outwardly at the Sternum, riſing up like a Lump from the Breaſt. At the Acromion, upward and forwards. It is commonly occaſioned by a fall, pitching upon the Shoulder, and is diſcovered by its protuberance.

The Prognoſticks.

The Clavicle is eaſily reduced but hard to retain in its Place when reduced, It's extremities being ſmooth, and the Cavities ſmall which receives them. The Arm is diſabled in ſome of its motions, if it be not reduced.

The manner of Reduction.

The Clavicle is reduced, by drawing the Shoulder backwards, and preſſing the end into its Cavity either at the Acromion or Sternum. When reduced proper Emplaſters and Compreſſes are to be applyed, and the part is to be kept in its place by Bandage, which may be aſſiſted by the Uſe of Splinters. The Bandage ought to be

be made with a double headed Rowler, which is to pass over the Shoulder, and under the Arm, taking a sufficient Number of Turns, to retain both the Part and the Dressing. The Patients Arm is to be kept up with a Napkin, with his Hand up to his Breast. If the Part continue in it's place, it is not to be opened till well, which will require time, before a Callus cements it; the Ligament being broke, which held it in it's Natural Place; which Callus is formed of that Mucilaginous Humour, which nourished the Part.

CHAP. IV.

Of the Luxation of the Shoulder.

THe Shoulder-Bone is inserted by a round Head, into the Shallow Cavity of the Scapula, that it might easily move any way, as occasion required. It is kept in it's place Upwards, by the Acromion and the Process Anchriformis, and the broad end of the Clavicle, which being extended, over the latter to the Edge of the former, makes the defences stronger; being also tyed by a strong Ligament, which runs transversly from the Processus Anchriformis to the Acromion. It is likewise bound with a strong Circular Ligament, which involves the whole head of the *Os Humeri*; as also by a Tendon from one of the Heads of *The Description of the Articulation.*

the Biceps, which passing through a Notch in the Head of the Humerus, is inserted into the Head of the Scapula; It is also strengthened by the Deltoides, which lyes over all, and binds them so fast, that the Bone will sooner break than these give way to a direct pressure. Internally and downwards it is guarded, not only by it's Posture, but the Muscles that retain it, as the Tendon of the Biceps *Externus Subscapularis* and *Rotundus Minor*. When dislocated it passes into the *Axilla* betwixt the Tendons of the *Subscapularis* and *Biceps Externus*. It is dislocated with a great deal of difficulty any other way.

The Cause. The *Os Humeri* is dislocated, either by some external violence, or internally by a Flux of Humours, which relaxes the Muscles and Tendons, and makes it apt to slide down into the *Axilla*.

Signs. If it fall into the *Axilla*, a Cavity appears upon the Head of the *Scapula*, and the Head of the *Os Humeri* may be felt round and hard in the *Axilla*; the Persons elbow hangs from his side, and cannot be brought as close as the sound one without much Pain; he cannot bring his hand to his Mouth, nor stretch it out against any thing. If the Head of the Bone be pressed inwards, a Cavity will appear behind, and a Protuberance forwards; the Elbow hangs backwards, and cannot be moved forwards without much uneasiness. If the Dislocation proceeded from an inward Cause, the Arm will be emaciated, and the reason discovered by the Person.

When

When it is occaſioned by an External Cauſe, it is eaſily reduced in Children and Soft Bodies, but in grown People and tough Conſtitutions, it is hard and difficult, and ſometimes they become Paralytick and Emaciate; but if taken care of in due time, they recover. If Part of the *Capſula* be broke, the reduction is very difficult: Luxations made by Fluxion are eaſily reduced, but not eaſily retained in their Place. *The Prognoſticks.*

The *Os Humeri*, is either reduced by Hand, Bandage, or the force of Inſtruments. He that would reduce it by Hand, muſt reverſe the Motions of Nature; and ſince in Diſlocation it firſt paſſed forwards, till it came paſt the edges of the *Capſula* then fell down below it, and was then pulled back by the Muſcles; in Reduction it muſt be firſt brought forwards, then upwards, and then thruſt in: This Method will do in Children; but in grown Bodies, the Patient is to be placed in a low ſeat, and his fingers being clapped under his Arm-pit, his Knee or Thigh is to be placed on the outſide of his Elbow, & his Head to the point of his ſhoulder. By his fingers bent ſtrongly together, the Bone will be pulled forward and upward, by his Thigh or Knee, preſſing his Elbow to his ſide, they will alſo both raiſe it, and bring it forwards; and his Head will preſs down the *Sapula* that it will not riſe with the Bone: the Elbow being thus preſſed by the Perſon, or another Man, and brought back to the Spine, the Patients other Hand muſt be placed under the *Axilla* to raiſe the Head of the Humerus forwards and upwards, the Surgeon in the mean time preſſing down the *Scapula* to receive the Bone. The Head of the *Os Humeri* being diſtorted forwards under Part of the Pectoral Muſcle, his Elbow muſt be drawn backwards, and held cloſe to the Spine, *The manner of Reduction by Hand.*

whilſt the Head of the Bone is preſſed upon with both the Surgeons Hands.

Another way of reducing a diſlocated Shoulder by the Hand is, by hanging the Perſon by the Luxated Arm over a Luſty Man's Shoulder, bringing his hand over to his Breaſt; and if the Patients weight is not enough to make Extenſion, he may be pulled down by another Perſon.

The manner of Reduction by Bandage. The Method of Reduction by Bandage, is by a Girt with a Bolſter in the middle, both ends being made faſt together; that part of the Girt with the Bolſter is to be put under the Patients Arm pit, and the other over the Surgeon's Neck, whilſt another ſitting upon the Patient, pulls his Arm backwards; The Surgeon in the mean time raiſing up the Humerus, and preſſing with both his Hands upon the Head of the *Scapula.*

Another way by Bandage is, to lay the Patient on his Back, whilſt the Surgeon ſitting behind, with the Girt under his *Axilla*, makes Extenſion; at the ſame time, another lying along the Patients ſide, is to preſs with his Heel againſt the Bandage, pulling the Perſon by the Arm all the while with all his force.

By Inſtruments. Inſtruments made uſe of for the Reduction of diſlocated Shoulders, are a Ladder, a Coulſtaff, Pulleys, *Gloſſochomium*, &c.

To make Extenſion by a Ladder, the Patient is to climb up three or four ſteps, putting the Diſlocated Arm over one of the Staves, betwixt his ſide and the Head of the Humerus, a Luſty Man pulling his Arm down, on one ſide the Ladder, backwards, whilſt he hangs on the other.

In the Reduction by a Coulſtaff, the following Method is to be obſerved. The Staff being made with a Bunch in the middle like a Wedge, it is to be covered with a ſoft Bolſter, and the Patient being placed near ſome poſt convenient to faſten a Pulley to, the Bandage muſt be made a little above the Elbow, and the Coulſtaff placed under the *Axilla*, ſupported by a Couple of Luſty Men, the Surgeon ſtanding on the other ſide with his Hands on each ſide of the *Scapula*, to preſs it down and keep the Patient faſt in his ſeat, taking care likewiſe, whilſt the Extenſion is making to keep the wedge in the right place, leſt the Bone ſhould be broke or any other Accident happen.

A *Gloſſocomium* is to be uſed only in ſtrong Bodies, which require ſtrong Extenſion, or in Diſlocations of long Continuance.

CHAP. V.

Of the Luxation of the Joynt of the Elbow.

The Joynt of the Elbow is made by the Concurrence of the *Os Humeri*, the *Ulna* and the *Radius*. *Deſcription of the Articulation.*

The *Os Humeri* terminates towards the Elbow, with a Broad head and double, and internally receives the *Ulna*, externally the Radius The Internal head is made ſmooth with a Griſtle, about which the Cavity of the *Ulna* is moved, and

when the Cubit is extended, the Proceſs called *Olecranum* or *Ancon* is inſerted into the External Cavity of the Humerus, betwixt the two Heads; and when the Arm is bent, the leſs Proceſs, is alſo inſerted into the inward Cavity of the Humerus. The radius in the mean time turns upon the outward Head of the Humerus with a ſmall Cavity, which is round and almoſt flat. Into theſe Heads ſeveral Muſcles are inſerted; all the Extenſors of the Hand and Fingers riſing from the External Protuberance, and the Flexors from the Internal. The Joynt is not only tyed by it's Articulation by *Ginglymus* of the *Ulna* with the *Os Humeri*, but alſo by a ſtrong Ligament, and bound faſt by ſeveral Muſcles. Internally by the ſtrong and thick, though ſoft end of the *Brachiæus Internus*, a ſoft fleſhly Subſtance interpoſing betwixt the Tendon and the Joynt, that the Tendon and Joynt might not incommode one another in Motion. This Tendon is aſſiſted by the Tendon of the Biceps, as alſo the Tendon of the *Pronator Radii teres*, and *Supinator Congus*. The External Part is guarded by the Biceps and Brachieus externus, which uniting together have a Fleſhly Inſide, but a ſtrong broad Tendon faſtened to the outſide of the *Olecranum*. The Joynt is alſo ſtrengthened by the *Anconæus*, which extending it ſelf from the end of the Humerus obliquely transverſe is inſerted into the *Ulna*.

The Radius is alſo tyed faſt to the ſide of the Ulna, and to the Humerus, by a Circular Ligament that involves the Joynt, and a broad one that tyes it and the Ulna together. This Joynt, though ſo firmly connected, may be diſlocated inwardly and outwardly, and on both ſides laterally.

If the Luxation be forwards, the Arm hangs outwards, and cannot be bent. A protuberance appears on the Inside, and a Cavity where the Elbow should be. If the dislocation be outward, the Arm will be curved, and the Cavity will appear Internally. If the Dislocation be Lateral, there will be a Cavity on the opposite side. *The Diagnosticks.*

This Joynt is seldom Dislocated, and when it happens, it's difficult to reduce. If either of the processes be broke the Cause is desperate. *The Prognosticks.*

When the Cubit is dislocated forwards, the Arms must be extended obliquely, lest the processes of the Ulna be broke. When the Bone is to be reduced, one is to hold the Os humeri, another to pull the Arm, whilst the Surgeon having placed a Boulster with a Girt or Styrup upon the bend of the Arm, makes extension with his foot, and guides the Bone into it's place. If the Luxation be backwards, extension is to be made as before, the Muscles of the Cubit being first embrocated with Lenients, that the Parts may more readily give way to Extension. Whether the Part be reduced by Hand or other Instruments, after Reduction, it will be requisite, to apply Astringent Restrictives to prevent Fluxion and Inflammation, to which, Parts that require so great Extension are subject to. *The method of Reduction.*

CHAP. VI.

Of the Luxation of the Carpus Metacarpus and Fingers.

Deſcription of the Articulation.

THe Carpus contains ſeveral Bones, of which one lyeth out of order; Three of them Articulate with the proceſſes of the Radius and Ulna, and four to the Metacarpus, being bound together with a ſtrong Ligament, which makes the Articulation more firm. Yet theſe Bones may be diſplaced, either all together or ſeparately; Internally, Externally, or Laterally.

The Diagnoſticks.

This Luxation is evident by the Tumour formed by the diſplaced Bone, and alſo by the Motion of the Fingers, the Muſcles oppoſite to the protuberating Bone, looſing their Power of Contraction or Extenſion, the Antagoniſt Tendons being ſtretched out by the Diſlocated Bone. If the Luxation be Lateral, the Hand inclines accordingly, either towards the Thumb or little Finger.

The manner of Reduction.

In the Reduction, the Hand is to be laid flat upon a Table, extenſion being made both above and below, the protuberant Bones being preſſed down at the ſame time into their proper places. The Bones being reduced, the Hand is to be dreſſed with Reſtrictives, Compreſs and Bandage, and placed upon a Ferula.

The

The Fingers may be Diſlocated, backwards, forwards or laterally. When they are diſlocated, it is evident to ſight, they may eaſily be reduced by Extenſion, and retained ſo by Reſtrictives and Bandage.

CHAP. VII.

Of the Luxation of the Hip.

THe Joynt of the Hip, is made by the Head of the *Os Femoris* joyned to, and received by the *Acetabulum* of the *Os Iſchion*. They are joyned together by two ſtrong Ligaments; one External and Membranous, which involves the whole Head of the Femur, being extended from the further end of the Neck, where it touches the great Trochanter; to the *Acetabulum*, to whoſe edges it is firmly connected; the other Internal is round like a cord, being inſerted into the Centre of the Acetabulum, and the Apex of the Head of the Os Femoris. This Articulation is confirmed by very ſtrong Muſcles: Externally by the three *Glutei*; Internally by the *Friceps* and the *Rotators*; yet it is ſometimes diſlocated by external force; or by a great Weight, the undue Poſition of the Thigh concurring. It may be diſlocated outward, inward, forwards and backwards. And ſometimes by the Relaxation of the Ligaments and Tendons by Congeſtion of Humours about the Joynt and in the *Acetabulum*. *Deſcription of the Articulation.*

In

The Diagnosticks. If the Diſlocation be Internal, the Head of the *Femur* may be felt a little beneath the Groin. The Leg will alſo appear longer than the other, the Knee and Foot being turned outward. If the Diſlocation be external, the Leg will appear ſhorter than the other, and the Toes turned inwards. If it be Luxated by Relaxation, the Leg hangs commonly downwards directly, and turns either way being looſe, and weak and emaciated.

The Prognosticks. Luxations of the Hip are difficult to reduce, and hard to retain in their Places. The Membranes being very much extended or broke. If it be not reduced it occaſions violent Pain and great Fluxion, the greatneſs of the Bone making a great preſſure and extenſion of the Muſcles. Yet in ſome Months the Muſcles growing Callous about the Head of the Bone, and yeilding to the Extenſion, the Perſon makes ſhift to go lamely; The Part being emaciated and ſhorter than the other. When the Diſlocation is occaſioned by Congeſtion, it is apt to Apoſtemate, and the Head of the Bone to grow foul and corrupt, by lying conſtantly ſo moiſt; and the Patient languiſhing, Dyes emaciated.

The manner of Reduction. If the Bone be diſlocated inward, and the Patient young and tender, it may be reduced by Hand; in order to which the Operator, muſt lay one hand upon the Thigh, and the other upon the Leg, extending it towards the ſound Leg, & then ſuddenly forcing the Knee up towards the Belly, & preſſing the head of the Femur back, the Bone will ſlip into the Acetabulum. In Bodies where ſtronger Extenſion is required, the Patient is to be laid upon his Back on a Table, a thick pin being fixed in the middle, which riſing up betwixt his Legs is to be placed cloſe to that Inguen, where the protuberant Bone is lodged; then one is to pull, taking

taking hold of that Armpit, and another is to extend by the Leg obliquely towards the ſound Leg.

If the Luxation be backwards, the Patient muſt be laid upon his Belly, and the Pin placed as before, the Pin ought to be pretty thick and covered with Cotton, that it may not offend the Part with it's hardneſs. The Extenſion upwards, may be made with a Towel or Girt placed betwixt the Thighs, and by a Bandage made above the Knee; the Parts below, are to be extended by the help of a Pulley, faſtened to the Bandage.

The Bone being reduced, it is to be ſecured with good Reſtrictives and Bandage, binding that to the other Leg; and the Patient, then is to be laid in Bed. If the Bone happen to ſtart again, a Second Reduction is not to be attempted, for fear Apoſtemation ſhould be induced; eſpecially ſince there may be hopes of the Part recovering ſtrength to walk upon it, though it ſhould never be reduced.

If a Luxation be made by Relaxation, the Part is to be fomented with Diſcutients and ſtrengthning Medicines, and Emplaiſters; as alſo the Superfluous Serum is to be diſcharged by *Epiſpaſticks*, *Fontanels*, &c. and the Habit of the Body is alſo to be corrected, with proper Alteratives to ſtrengthen the Craſis of the Blood and Serum. If it Apoſtemate it is to be treated accordingly.

CHAP. VIII.

Of the Luxation of the Knee.

The Description of the Articulation.

THE Articulation of the Knee is composed of the Connection of the *Os Femoris*, the Upper Head of the *Tibia* and *Patella*. The first is inserted by a double Protuberance into the two Cavities of the Latter. The Joynt is likewise strengthened with the broad Expansion of the Tendons before, which run over the *Patella*, and are inserted into the *Os Tibiæ*. Behind it is strengthened by the Tendon of the Biceps outwardly, and of the *Sartonius gracilis*, *Semimembranosus*, and *Seminervosus* inwardly. This Joynt is not dislocated forwards without great violence, but backwards on each side, it may be totally or half dislocated.

The Diagnosticks.

Luxations of the Knee are evident to the sight, a Protuberance appearing on the one side and a Cavity on the other.

The method of Reduction.

These Dislocations may be reduced by a Moderate Extension, especially those that are Lateral. If it be dislocated backwards, moderate Extension is to be made, then bend the Leg suddenly backwards, bringing his Heel to his Buttocks, and the Part will return into it's place. Then embrocate the Parts affected, and apply Astringents with good Compress and Bandage.

CHAP. IX.

Of Luxation of the Ankle-Bones.

THE Extremities of the *Tibia* and *Fibula* are joyned with the *Os Tali* by *Ginglymus*. The Internal Ankle is formed by the *Tibia*, and the External by the *Fibula*, under the *Talus*, the *Os Calcis* lyes; and the *Os Cymbiforme* before it, without which the *Os Cybiforme* is Joyned to the *Os Calcis*; between the *Os Cymbiforme* and the *Metatarsus* lyes the *Ossa Cuneiformia*. This Joynt is tyed together by strong Membranes and Ligaments, and strengthened by several strong Tendons, which are joyned and bound together with the Ligaments. *The Description of the Articulation.*

If the Ankle be dislocated inwards, the sole of the foot is turned outwards, and on the Contrary when it is dislocated outwards. If dislocated forwards the great Tendon of the Heel is hard and stretched out, and the foot seems shorter than it should be. If backwards the Sole of the Foot seems longer, the dislocated Bone lying over the Heel: As these Signs appear more or less, the Dislocation is perfect or imperfect. *The Diagnosticks.*

These

The Prognosticks. These dislocations are easily reduced; yet as they are depending Parts, and weakned by the extraordinary extension of the fibres, they are subject to Tumour, Pain and Echymosis; and the Part is long before it recovers it's Tone again.

The manner of Reduction. The Reduction is made by a gentle Extension, one taking hold of the Foot and another of the Leg, whilst the Chyrurgeon presses the Bone into it's place, the reverse way to what it came out. If the Extension made by hand is not sufficient, the Pulley or other Instruments may be made use of. The Bone reduced, Astringents with Bandage are to be made use of.

Sometimes the Ankle slips out laterally by a Relaxation of the Tendons, which if reduced is apt to slip out again by the least Accidental force, but by the use of Astringents, and by keeping the Part free from any Strain, for sometime, the Part will gradually recover its lost Tone and gather strength.

The Bones of the Metatarsus and Toes are often fractured, but seldom dislocated, being bound fast by so many strong Tendons; but when they are out of place they are to be reduced as the Bones in the Metacarpus and Fingers.

CHAP.

CHAP. X.

Of the Luxation of Spine.

THE Diſlocations of the Spine, which are occaſioned by weakneſs, are to be cured by Internal Medicines, and the Application of proper ſtrengthning Plaiſters externally, which may be alſo aſſiſted by good Bandage. *Which may be remedied.*

When a Diſlocation happens to be made by any External Violence, it muſt ſpeedily be reduced; but ſuch Caſes ſeldom happen.

Having in the preceding Chapters ſhewn how Diſlocations in General, and alſo how particular Diſlocations are to be managed in order to the reſtoring the Part affected to its Natural State, to conclude this Part, we ſhall briefly conſider the Reaſon of thoſe proceedings; and firſt, ſince the Parts affected by the Diſlocation muſt needs have their Fibres much vitiated in their Tone, by being ſo violently extended ſo as almoſt to looſe their Continuity; when the Parts are by extenſion reduced into their Natural Poſture, it is but reaſonable they ſhould be there retained; and ſince Bandage and Poſition are requiſite and proper, yet the Fibres being ſo much relaxed, might reaſonably give way to the Influx of Humours, and receive them betwixt their Parts, ſeparated in ſome Meaſure by that violent diſtenſion. But to aſſiſt Bandage in expreſſing that which might be already collected, as well as to prevent the Influx of more, Aſtringent Repellents, are with Reaſon *The Reaſon of External Applications in diſlocations. And their Effects.*

Reaſon applyed, which not only prevent the Influx of Humours, but likewiſe contract the extended Fibres, and along with Bandage help to reſtore their loſt Tone, and therefore they are to be continued as long as there is danger of their being extended again with Fluxion; but when that danger is over and the Fibres have recovered their Natural ſtricture, ſtrengthning Medicines are to be applyed to confirm the Parts in their Tonick ſtricture. How Aſtringent Medicines produce their Effects, hath been ſhewn in the Firſt Chapter of this Book of Tumours in General, which we ſhall not here repeat. And how ſtrengthning Medicines produce their Effects may be eaſily underſtood, if we conſider, that their ſubtle and warm Effluvia Diſcuſs whatever may be lodged in the Part, and keep its Fibres from adhering in their due ſtrict order; and as they ſtrengthen the Parts by removing ſuperfluous humours, ſo do they likewiſe by recovering and preſerving the Natural Heat, by which means the Fibres are confirmed in their Natural Temper and Tone.

AN

AN

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ERRATA.

Pag. 19, for *Diapræn.* read *Diaprun.* for *help to looſen*, r. *helps to looſen.* pag. 21, for *Cypreſs, Nuts* r. *Cypreſs Nuts.* pag. 25, for *Abſynth.* r. *Abſinth.* pag. 48, for *Croci* ℥ii r. *Croci* ℥i for *Cancar*, r. *Cancror.* pag. 56, for *Oedemators*, r. *Oedematous* pag. 67, for *Fricus*, r. *Ficus.* pag. 73, for *Syr. & Citri*, r. *Syr. de ſuc. Citri.* pag. 76, for *Squammæ Ceris*, r. *Squammæ æris.* pag. 81, for *Ung. Tumach*, r. *Ung. Sumach.* pag. 121, for *bac. Cauri* r. *bac. Lauri.* pag. 126, for *balvaſt.* r. *baluſt.* pag. 204, for *rad. gros.* r. *rad. ireos.* pag. 243, for *iros rubr.* r. *roſ. rubr.* pag. 259, for *Syr. Capill. Veneni*, r. *Syr. Capil. Veneris.* pag. 273, for *Roſ. or rub.* r. *Roſ. Rubr.* pag. 336, for the figure of an *S* r. the figure of *ſ.*

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